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IN spite of the severe criticism by the Carnegie Foundation for the advancement of teaching of Tennessee medical schools, asserting as it does that "the State of Tennessee protects more low-grade medical schools than any other Southern State, the Chattanooga Medical College has organized for the fall term. As a result of a recent meeting of the faculty of the former Medical Department of the University of Chattanooga, it was decided that the medical school should continue an independent existence. The faculty members will furnish the necessary funds themselves to maintain the college. After severing its connection with the university the school has applied for a separate charter. It is believed by the members of the faculty that they have acquired the necessary experience to educate physicians, and that to be subject to interference from a president who, perhaps, is only acquainted with the classics, is an unnecessary restriction and hardship. The entire proceedings seem to be a direct slap at the Flexner report, which unmercifully criticised the former medical department of the university; and it is significant that no change has been made in the teaching staff. One of the teachers is quoted as saying that he and his associates are more conversant with the needs of Southern medical education than the self-appointed critics representing the Carnegie Foundation.

NOT so many years ago city and village councils protested that sewer and water provisions, garbage ordinances, etc., cost too much money to enforce. It was too bad, they said, with deprecatory shrugs and gestures, but really the cost of fire protection, the expense of government caused as high a tax rate as could be ventured, and so on *ad nauseam*. Such has been the progress made by municipalities that to-day it is admitted that the non-enforcement of ordinances regulating the health of citizens would be too expensive. This change in public opinion is due chiefly to the efforts of the medical profession, which, to its own financial detriment, has taught the value of prophylaxis. It is for this reason that the efforts of B. O. Flower and his ilk to arouse prejudice against the medical profession will be of no avail. Even though thousands of fanatics should join forces with the editor of the *Twentieth Century Magazine* (what a misnomer!) the truth that medical men and women have tried to inculcate upon the minds of this generation will ultimately prevail. The medical profession has behind it the irresistible power of this truth.

FOR the first time since the law has made compulsory the taking of an examination before the State Medical Board, applicants for the coveted permission to practice had to pass a practical clinical examination at Columbus last week. About two hundred men, mostly students who had just graduated submitted to the test of diagnosing the diseases of some two dozen patients, making a prognosis and prescribing their method of treatment. It is believed this is the most effective test of fitness that has been devised. The many catch questions and irrelevant quizzes dubbed examinations by the august propounder who would have utterly failed in the "test" himself had he not fortified himself by a search through long-neglected text-books, should be superseded by practical demonstrations of fitness as was done at Columbus. At any rate, these practical examinations should supplement technical questions. The former really demonstrate whether an applicant is competent to practice medicine.

WHILE Southern medical schools have been the subject of criticism for their alleged failure to meet the requirements of modern life, news comes from Mississippi of a proposed institution rivalling anything thus far suggested in the effete East. A former member of the Mississippi State Board of Health, Dr. H. M. Falkes, of Biloxi, has addressed a letter to the members of the State Medical Association urging the incorporation of what he would term the Mississippi Academy of Medicine, which is to be under the direction of the House of Delegates of the State Association. He suggests that

the institution be capitalized at $50,000, with shares at one hundred dollars each, to be placed with members of the profession throughout the commonwealth. When fully paid in, a permanent home is to be erected at some desirable location, to be made the continued meeting place of the association. The purpose is to equip the building with a medical library adequate to the demands of the members, books to be loaned upon demand to every member in good standing and forwarded to him within an hour of receiving the request; it is contemplated to place a large pathological and anatomical museum in the building, to install an extensive bureau of information—nothing is to be omitted that will in any way further the interests of the membership. The advantages of such an institution are obvious. The consummation of the movement would be the most telling argument conceivable of the progressive nature of Southern medical men; for it is certain that other State associations would hasten to follow Mississippi's example.

The city of Dayton, O., has been advised by its Improvement Federation that it negotiated with the local hospitals with the view of providing for the treatment of contagious diseases, except variola, and that the city should take steps to erect a detention hospital as soon as its finances will permit. The Gem City is one of the most beautiful and progressive municipalities in the State, and it is surprising that it has not as yet found it convenient to do what less enterprising cities have long ago undertaken, making adequate provision for smallpox and other virulently contagious diseases. Other municipal enterprises in which Dayton is engaged can wait a space until this most necessary building is erected and equipped. The enterprising physicians of the community could easily bring this improvement about, if they would.

THE FEEBLEMINDED.

IDIOCY is so terrible an affliction that it has had from earliest times legal and social recognition. It is due to one of two causes, a *germinal variation* on the one hand, and a *bodily modification* on the other. In the former case, it is inherent in *nature,* hereditary and conceivably transmissible; in the latter, it is *nurtural* and no more significant phylogenetically than a broken bone.

Fortunately, the great bulk of the congenital idiots die at birth or during the mortality of the first weeks of life usually from other congenital defects, and the small number remaining are segregated and prevented thereby from any possibility of reproduction. The early death of the congenital idiot and even the idiot from the result of disease or accident is apt to occur, before the suspicion even of the family is aroused by the tardy mental development. In the tremendous mortality of infants during the first weeks of life the exact proportion of potential idiots has not been determined.

It is, however, quite another condition which is termed feeblemindedness. In a primitive state of society this condition would not be so serious a handicap. It is not always attended by feebleness of body. It is a condition both of germinal variation and, therefore, transmissible by the Mendelian law, and of accidental bodily modification and non-hereditary. This condition, which is the result of congenital malformation, on the one hand, and of disease or injury on the other, known as feeblemindedness, finds only tardy recognition in the monuments of philanthropy and the annals of our statute books. The word feebleminded itself, with its technical meaning, is of so recent use that the more pedantic place a hyphen after the adjective portion to separate it from, rather than connect it to, the substantive part. Indeed, we may search the statute books in vain to find what provisions have been legally made to guide the courts in their conduct toward this growing class of citizens. In a few instances a finical legislature has used the word feebleminded as synonymous with idiot when framing the title of its laws, but an analysis of the subjoined statute discloses a failure to consider the feebleminded, properly speaking, at all.

The feebleminded embrace that class of the community deficient in intellect, but not idiotic, deluded or epileptic and not subject to commitment or any legal restraint or recognition. They are capable of productive occupation, but not under competition. They lack judgment.

This feeblemindedness is sometimes the result of injury or disease or of improper, injurious and destructive treatment, or neglect of treatment, for injury or disease; of defective or deficient feeding and housing; of the destructive workings of the factory system or of child labor; and of the ravages of the social evil and its attendant dissipations. In so far as feeblemindedness is the result of postnatal causes, it is an accidental defect or bodily modification of no more phylogenetic significance than the loss of an arm or a leg. Scarcely a fanatical advocate of the hereditary origin of every disease, from albuminuria and appendicitis to the "yellows" and zoster, can be found who would legally inhibit procreation on account of the fear that a parent would convey to his offspring an amputated extremity or a gold-crowned tooth. Even those cases of feeblemindedness in which the Was-

sermann reaction shows a syphilitic pre-natal basis are only transmissible so far as syphilis is transmissible to the offspring, and the child of such a feebleminded parent is no more likely to be feebleminded than he is to have a syphilitic bone or hepatic gumma. It is still too early to learn the benefits of treatment of hereditary syphilis, discovered in the first weeks of life by hemolytic reaction, in preventing the baneful effects of this disease on the cerebrospinal system.

Just how large a portion of the feebleminded are in this unhappy and, to us, shameful condition as the result of post-natal accident, starvation and abuse, or of other non-transmissible causes such as hereditary syphilis, tuberculosis or ancylostomasis no commission has ever attempted to determine. We may safely and indisputably affirm that in so far as infants are properly fed and cholera infantum prevented; in so far as the epidemics of the acute infectious diseases are limited or arrested, and the sick of these diseases so rationally treated as to prevent the onset of dangerous complications and mixed infections; in so far as childhood is protected from the piratical manufacturers' relentless machinery and inhuman toil, the benumbed and paralyzed condition of mind which we term feeblemindedness will be proportionally diminished.

There is a remnant of the feebleminded that is such from congenital defect. They are not "inferior members of a normal mankind." "They suffer from a deficiency of mind, a failure of mental development, which is of precisely the same kind as and merely differs in degree from the states of imbecility and idiocy." Although this lamentable condition may be ameliorated it can never be cured, and such feebleminded person turned into a normal individual. It may be assumed to be an accidental variation, therefore transmissible, according to the Mendelian law, to succeeding generations. In these congenitally deformed, procreative power and sexual pertinacity seem to be early and irresistibly developed. A. F. Tredgold has found such feebleminded are actually, even under the unfavorable surroundings of modern economic restraint, one and a half times more prolific than the normally intelligent. In this way does nature express a determination to perpetuate any accidental variation, even though our present judgment is that the strain is unfit. Sixteen feebleminded mothers gave birth to 116 children, and in one family of fourteen only four were able to do remunerative work.

In the rush and hustle of our American business and professional life, there is little time for that wisdom that comes from contemplation. The doctor of medicine must, however, take a hunch of the times and wake up to the surroundings which are leaving a heritage of woe to the coming generation. The sacrifice of our forests, our public domain, our water power and our mineral resources by extravagant and ruinous exploitation at the hands of organized commercial bandits and pirates is not more hazardous to the happiness of the next generation than the neglect of the orphan, the feebleminded and the other defectives.

It is the duty of the economist citizen to furnish a conscience to the State in its relation to fuel, lumber, water and transportation, and it is an equally imminent duty of the doctor to warn against the danger that the State may lose that grand resource for which all others are conserved, namely, a vigorous and unblemished citizen body. To do this he must combine the most intimate and familiar knowledge of the exact sciences and a healthy experience in the affairs of state, village and family. Fortunately, in the many aids to knowledge and culture which libraries, journals and monographs now afford, such a near-Utopian condition is possible. The whole subject of heredity is presented in a perfectly readable and intensely fascinating manner by J. Arthur Thompson in his book of that name (G. P. Putnam's Sons, 1908), and the eight blue books of the Royal Commission are now at hand and give a detail of information which deserves the attention of every good citizen doctor.

It appears that the ratio of feebleminded to the normal is about 1 to 120. In every school of 1,200 pupils there are at least ten feebleminded children; in every city of 120,000 inhabitants there are 1,000 feebleminded citizens; in this great nation of nearly one hundred million people there are nearly 830,000 persons "who are capable of earning a living under favorable circumstances, but are incapable, from mental defect existing from birth or early age, of competing on equal terms with their normal fellows or managing themselves and their affairs with ordinary prudence."[1] Like any machine of human construction the law requires to be fed with a standardized product. In its application "a man's a man;" the fact that he is feebleminded is not pertinent. During the last century the lunatic has been legally extruded from the hopper of the courts by the commitment device. Not so the feebleminded. All students of feeblemindedness recognize the almost equal irresponsibility of the lunatic and the weak-minded. The Royal Commission found that 20 per cent. of the criminal population of Great Britain were mentally defective, and at least 10 per cent. of the tramps were feebleminded. Almost half of the girls in the brothels were feebleminded and some were almost idiots. Yet in the workhouse these

1 From the definition of the Royal College of Physicians, Tredgold, The Contemporary Review, June 1910, page 719.

women were very prolific and even when married their sexual overdevelopment was so great that more than half of them "led immoral lives." One hundred and fifty pairs produced at least 328 offspring definitely diseased in mind or body. The cost of each feebleminded person to the commonwealth was estimated by the commission at about $10,000.

One of our first duties is to inform the public of the condition of feeblemindedness and secure laws recognizing this state in which 1-120 of our population belong. The indulgence of the law to this class should be legally vouchsafed and the inhuman action of the police toward feebleminded offenders should be stayed by statutes. The civil rights of the feebleminded should be curtailed and a public conservator should be provided in every community to protect them from normal citizens, or, where economic conditions demand, a private conservator should be possible. Those feebleminded who are such from prenatal, transmissible causes should be segregated permanently and procreation should be prevented. This is especially in the case of feebleminded girls whose only avenue of self-support is the red light road.

There are good reasons why all the feebleminded should be treated with the greatest consideration and almost worshipful gentleness. The elimination of some phases of intellect exposes the emotions, the passions and even that mystery, the imagination, to unexampled prominence. As we learn from comparative anatomy and physiology, so we should learn from these adult children. Such was Darius Green of the flying machine, a prophet of the Wright brothers' aeroplane. The spirit of St. Francis of Assisi was exhibited for the world's admiration and edification by a feebleminded man "who was incapable of managing himself and his affairs with ordinary prudence." The spirit of modern child study and fundamental education has been largely assisted by the study of the mental processes of the feebleminded. Every person who has had to do with the feebleminded is dull indeed if his spirit is not ripened and mollified by the experience.

The trades unions should become thoroughly informed of the significance of feeblemindedness to the labor problem. In the labor market the feebleminded are ever at the mercy of "the meanest employer." The fact of feeblemindedness does not interfere with production in many occupations of the modern industrial system. The machines are made so simple that any fool can run one and they are made so strong that no fool can break one. And it is this army of less than 1 per cent. of laborers that capital uses to break each succeeding strike. Without the wit to protect themselves they are collected from hither and yon and when the strike is over they are thrown out for better men.

The Royal Commission estimated that each feebleminded person cost the State sooner or later, and before he was under ground, not less than $10,000. In the whole United States this means a good round sum, enough to build a battleship or endow a university or even a medical school now and then. Capital, so prone to protect itself, should protect itself from taxation for this item of the annual budget. These defectives are capable of productive labor, but incapable of playing the game called "the competitive system." Those who fear the coming of Socialism should stay the grind and squeak of competitive civilization by caring for this disturbing element.

Educators have already demanded and secured separate schools for backward children. When the backwardness is due to peripheral defects in carrying communications to and from a normal brain, the teachers have done wonders. They must not, however, be required or expected to accomplish the miracle of making the feebleminded strongminded or normal. Helen Keller had an imprisoned normal mind of great alertness. Her education was simply a process of opening doors. Each State has its Helen Kellers, and some of them are even educated by the liberal legislative appropriations of a prodigal people. The presence of the feebleminded in public schools is embarrassing to the teacher, disturbing to school discipline and unprofitable in its results. The diagnosis of feeblemindedness should be made early by the exclusion of peripheral retardation of apperception, and its etiology should guide in the subsequent disposition of the unfortunate. Under proper guidance, a simple rural life, almost a life of savagery, in its etymologic significance, would be humane, rational and economical, and save the police, the courts and the philanthropist much futile activity. E. Y. Davis.

DEXTROSE AS A FOOD.

In the early '90's the so-called Paskola case created considerable excitement in medical circles. The question hinged upon the facts relating to glucose as a medicinal or food product, and its possible injurious effect upon the human economy.

Paskola was advertised and sold to the medical profession by a company organized in New York City, the chief of which was one White, who had the reputation of being a "patent medicine shark." Associated with him was a Mr. Russell, who, up to the time of his going into the Paskola business was manager of the malt extract department of a large Detroit manufacturing pharmaceutical house, and by reason of his former employment and know-

ledge of advertising methods relating to this particular product, was placed in charge of the advertising and distribution of the new product.

Paskola was represented to be a predigested carbohydrate, and the literature relating to the article contained all the catchy phrases of manufacturers of predigested nutrients, to the effect that Paskola contained all the elements in concentrated form necessary for the nutrition of the human body, and in addition contained some of the digestive ferments. It was most highly recommended as the nutrient *par excellence,* and a palatable succedaneum for cod liver oil, and the profession was importuned to use the article as a substitute for cod liver oil in tubercular diseases, etc.

Owing to the liberal advertising methods employed, Paskola at once was favored with a large trade, and a few months after its introduction it was claimed that they were disposing of it at the rate of fifty gross per day. The price of Paskola was $1 per pint and 50c. per half-pint.

It had been upon the market but a litttle while when rumors were current to the effect that Paskola was nothing but ordinary glucose, having a commercial value of about ten cents per pint. An analysis of the article was made by the State Dairy and Food Commissioner of Ohio, who published his conclusions to the effect that Paskola was nothing but glucose impregnated with sulphurous acid gas, that it had no digestive powers and contained no digestive ferments, and was therefore a fraud. Its sale was prohibited in the State of Ohio. The analysis and comment of the Dairy and Food Commissioner of Ohio was published in full in the Lancet-Clinic. Later suit was brought by the Paskola Company against Scott & Bowne, proprietors of Scott's Emulsion of Cod Liver Oil for a large amount.

At the time of this investigation a number of chemists published their reports relating to glucose, and with one exception these reports condemned the use of glucose as a food, and were against its being used in combination in confectionery and foods, for the reason, as stated by them, that it was harmful and unfit to be used in this manner. A number of the States enacted statutes prohibiting the sale and use of glucose as a food or medicinal product, and it is probable that some of these statutes are still in effect.

In a report recently published by the Corn Products Company, which is the Standard Oil annex engaged in the extensive manufacture of glucose, it was stated that 150,000 bushels of corn per day were converted into glucose. In the light of this statement the magnitude of the use of glucose in the industries of the present time becomes apparent. So far as can be observed, this enormous amount of glucose is placed before the consumer by stealth, except the little which is being used under the name of Karo, which is advertised in all the leading magazines and periodicals, including, perhaps some of them which have been so vigorous in making war upon nostrums and fraudulent preparations.

It is a well-known fact that large amounts of glucose are used in the manufacture of cheaper grades of confectionery and in the substitution of glucose for malt in the brewing processes. In fact, most of the brewers use large quantities of glucose in the production of beer, although few brewers will make this admission. They will admit that they use certain brands of sugar, which a little investigation demonstrates is nothing but glucose branded with some fanciful name, as "crystal sugar," to evade the ignominy which attaches to the use of glucose.

It appears that, in keeping with the masquerade of glucose which has been in vogue for so many years, an attempt is now on foot to foist it upon the medical profession; and that this is not an idle assertion is borne out by the fact that the Council of Pharmacy and Chemistry of the A. M. A. endorsed glucose as a new and non-official remedy to which all loyal adherents of the A. M. A. are urged to turn, as a predigested carbohydrate and food. Witness the declaration of the Council as found in the issue of the *Journal of the American Medical Association,* dated July 10, 1909:

"*Dextrose*—Saccharum Amylaceum.

"Dextrose, $C_6H_{12}O_6+H_2O$, is a carbohydrate prepared by the action of dilute acids on starch; it also occurs naturally.

"Dextrose containing a molecule of water of crystallization occurs in white crystalline masses. It is soluble in its own weight of water at 15° C. (59° F.); in 50 parts alcohol (85 per cent.) at 17° C. (62.6° F.), and in 11 parts at the boiling temperature.

"An aqueous solution (1-10) of dextrose should yield, after the addition of dilute nitric acid, not more than a slight turbidity with either barium nitrate or silver nitrate; and after the addition of ammonia should produce no precipitate with ammonium oxalate.

"An aqueous solution (1-20) of dextrose should not change when heated with hydrogen sulphide.

"*Action and Uses.*—Dextrose is quite readily digested, and may be used in place of cane sugar as a food.

"*Dosage.*—180 grams (6 oz.) daily."

Glucose under the name of dextrose perhaps smells sweeter than under its much-belabored original title. Then notice the Latin suffix, with the formula expressed in chemical symbols. Surely the unsuspecting practitioner might be led into the be-

lief that here is a new product, and the description naively says that it occurs naturally. The tests for its purity are ultra-scientific and in keeping with the character of the committee which has so agreeably passed upon it. Its action, use and dosage are also set forth.

Since the adoption of the report of the Council on Pharmacy and Chemistry of the A. M. A., some allusions have appeared in current medical literature referring to the use of glucose. It is apparent that the "system" is not satisfied with corrupting the rank and file of the medical profession in behalf of their sophistication, but, in accord with their usual practice, pick out the leaders to carry out their nefarious designs. In the *Interstate Medical Journal,* of May, 1910, page 305, we find an article entitled "The Cardinal Principles for the Successful Feeding of Infants," by Thomas Morgan Rotch, Professor of Pediatrics, Harvard University — surely a name to conjure with in connection with the topic under consideration. This article covers twelve pages, and the only thing new in the dissertation appears under the head of carbohydrates: "The explanation of many of the successful results in infant feeding lies in the special carbohydrate which is embodied in the food. Dextrose, however, is the only one capable of being to any extent absorbed into the circulation. It, in fact, represents the final product into which the others are changed before they are ready to be used for nutrition."

As controverting the statements of Dr. Rotch specifically, attention is directed to "Pavy's Physiology of the Carbohydrates," which is an exhaustive and elaborate statement of experiments and tests relating to the digestion of starches, and, so far as the writer's knowledge extends, Pavy's theories of the digestion and assimilation of the starches have been and are accepted as conclusive and correct.

G. S.

THE HEALTH LEGISLATIVE MATTERS OF THE FUTURE.

ON the occasion of the 129th anniversary of the Massachusetts State Medical Association, at Boston, June 8, a member of the legislature addressed the assembled medical men, and reminded them of their duty in interesting themselves more in legislation affecting the health of the public. Had he stopped there, his address would have been a repetition of the meaningless platitudes lawyers and politicians are apt to express to their medical auditors. But the speaker pointed out that he "did not recall seeing a bill backed by the State Association which had not gone through 'flying.' Doctors should give the members of the legislature the benefit of their ideas on health legislative matters."

This is the experience of every legislative body that has felt the influence of medical opinion. Massachusetts politicians are not alone in ascertaining the power of an aroused medical profession. Ohio among other States has been conspicuous for the work done in "health legislative matters," and the efforts of the State Medical Association to have a paid attorney at Columbus to legitimately further its interests, interests absolutely identical with those of the public, shows how, after all, the truth is coming home to the profession that it must bestir itself if it is to accomplish anything. Our misnamed public servants whom we help to elect, not being subject to the initiative and referendum and recall, can be impressed only by a display of force and telling arguments as to the profession's influence upon the servant's future employment in like or higher positions.

The day when medical men held aloof from their duties as citizens, by reason of a foolish fear of being considered unethical, is rapidly passing. Physicians are turning from the mere diagnosis of disease to its causes in impure water or milk, poor hygiene, etc., and are insisting upon the enactment of adequate laws to assist them in the prophylaxis of disease. Later on they will more fully realize what it seems they only partially see now—that economic causes are even more potent than they suspect in producing disease conditions. They will understand that after all they are citizens first and physicians afterward; that, though want is ever present, coal and farm products are so plentiful as to be shipped abroad in large quantity; that nature's resources are monopolized, though made for all; that, in consequence of the extremes of wealth and poverty this monopolization produces, lawlessness ensues; that this breeds crime, and crime produces disease, and disease want and poverty, and these again more disease in an ever-increasing ratio. Then the medical profession will awaken to its responsibilities as leaders of thought. Without being suddenly destructive and unduly radical the medical profession will follow the course it now pursues somewhat haltingly. Years of discipline and humanitarian efforts as to prevention of disease will impel a continuance along the line indicated.

In that future time medical men will follow the suggestion of the Massachusetts legislator, and give the law-making bodies the benefit of their ideas on health legislative matters, but it will be along broader lines than at present.

THE employment of growing children is like the felling of young trees—an outrage upon nature.—*Bulletin Chicago Health Department.*

Correspondence.

[We are not responsible for the views expressed by our correspondents. This department, however, is a forum in which all have a right to state their sentiments.—EDITOR LANCET-CLINIC.]

COMMUNITY EDUCATION.

CINCINNATI, June 22, 1910.

EDITOR LANCET-CLINIC:

If there was ever a time when "he who runs may read," 'tis now. Never in the history of the world has public sentiment been so universally opposed to all kinds of sharp practice. Never were educational advantages so available, or upon such broad and liberal sentiment.

It is just as important for a community to educate its members as it is for its members to become educated. As community education is now the all-absorbing topic, a few remarks may be made with reference to what is community education and what is to be expected from it.

Cincinnati and New York City own their universities, the only two cities so blessed. The endowment of the University of Cincinnati is six million dollars. Cincinnati owns the Southern Railroad, worth seventy million dollars, which will be paid for within five years. No city in the world possesses such an asset. It has many natural advantages, topographical and otherwise. It has held western prestige and may do so again; but when and how may it be done?

Community education is knowledge gained in any way in the locality in which the beneficiary resides, with or without cost or effort on the part of any one. The degree of education depends upon the effort of the individual and advantages offered by the individuals.

The members of this locality offer special advantages to the individual, as industrial, academic and collegiate opportunities are well developed and diversified. The purpose of these advantages is the general uplifting of every person within the territory and those who may come in contact with it at home and abroad. Of the many features involved, there is none perhaps so important for the preservation of the community's interests than that which pertains to medicine and surgery, which concern every vocation of its constituents.

The purpose of these advantages has not been fully realized, especially in the department of medicine and surgery. They cannot be realized with the ways and means which now dominate its management. The rancor within the colony of medical management has caused that particular department to gradually decline, until dissolution is imminent and its splendid prestige absolutely lost, unless regained by a new regime.

The excellence of any enterprise, especially educational, depends upon the men who manage it. Men make institutions, but institutions do not make men. No man should believe that his services cannot be dispensed with without injury to the institution, or that there is not another who cannot do the work so well or perhaps better.

Individuals as such, not entire families, should manage the affairs of state. Honesty and ability, whether created in the lowest hovel or highest castle, is enough for America or any other nation to recognize. Intellect, not political intrigue, should dominate the affairs of man.

Why boast of the product of local labor and then seek the product of foreign labor, except when most urgently demanded? Is it possible that home product is wanting in talent? If so, why not make a special effort to improve what is at hand to the highest degree?

He who knows how to direct and profit by the past should be able to discover all he desires to know for the preservation of his own life. "He will be forewarned of any danger, forearmed in the means by which danger is avoided." For the eye of the true Pythoness, matter has no obstruction, space no confines, time no measurement.

Progress cries out, "Teach me in my efforts, journeying the lessons of nature, point out to me the fertile fields that are the most productive of good, indicate to me the most picturesque scenery, place in my hands the most beautiful flowers, and lead me to the brook in which flows the sweetest and most refreshing water." One cannot but feel the very helpless and terrible disappointment of one to whom the real situation of affairs had never been revealed before.

Let all be happy together. The greatest mission is to relieve suffering, soften sorrow, make cheerful, give confidence, live honorably, and give up life without complaint. All this done the mission will have been fulfilled and memory made glorious. Such a faith should cause one to feel more keenly the importance of being gently disposed, and, if necessary, deposed, than those with less faith. Unfortunately, this is not so with a few, for, like Aurora,who remains inconsolable for her son, "their tears would still flow and could be seen of early morning in the form of dewdrops on the grass."

This class should prepare itself to escape from oblique and malicious judgment. The transition should be easy and the reward unmeasured. With careful premeditation it could be prepared for anything when brought to the final judgment of all classes. If it has not drawn the best or kept intact what it possessed, the good influence which it has exercised by word and act would still endure. One cannot be altogether unmindful of the good already accomplished in that natural, purely intellectual manner, but it is only through such a process of reasoning that the good is reached. Restriction would cause intellectual deterioration, which would, in turn, rob the enterprise of its most sacred gifts.

Is it not possible that some messenger of the gods (perhaps Halley's comet) is speeding through space to give glad tidings of what is soon to be? Probably the Milky Way arches overhead or the constellation stands out clear with an occasional meteor speeding along the sky, as if some mighty hand had scratched a giant match upon the rough surface, leaving an evanescent trail of phosphorus to gleam a moment and then die.

Truth itself is neither man's nor woman's, but just God's. None else has reason to be proud of truth. It shall be kept upon the height and in the light no further than 'tis truth.

Natural and spiritual things—whoever separates the two, in art, in morals, in science or the social drift, tears up the hand of nature and brings death, paints futile pictures, creates imperfect mechanisms, writes unreal verse, leads vulgar days, deals ignorantly with man, is wrong, in short, at all points.

B. Merrill Ricketts.

APATHY IN REGARD TO OPTOMETRY.

Sidney, O., June 13, 1910.

Editor Lancet-Clinic:

There is an enormous amount of apathy on the part of the profession in regard to optometry, owing both to ignorance and indifference. The number of men in the profession who care nothing about it, because they know nothing of the merits of the humbuggery, is disheartening to those who have been in the fight.

It seems to me the right thing to do is to keep hammering away, as Dr. Vail and others are doing, so that the profession shall become thoroughly informed and duly aroused before the meeting of the next legislative session. If Governor Harmon should be in the executive chair again there will be an attempt to pass their bill over his veto. It must not be forgotten that this is to be the entering wedge for the destruction of the medical practice act.

As soon as I can find time I hope to write you more at length, and for publication, several propositions which I think worthy of consideration, which have been learned in my experience in this fight, which, in my judgment, has only commenced.

Yours truly,

D. R. Silver.

THE WEEK'S NEWS.

The Ohio State Pharmaceutical Association will meet in annual convention July 12 to 15, at Cedar Point, in Lake Erie.

Official announcement is made that Dr. George E. Bulmer, of New Haven, Conn., will succeed Dr. Herbert G. Smith as dean at the Yale Medical School.

A college boy clowning at a Cleveland amusement park to help pay for his education—that's the story of Al Fuller, student at the Western Reserve Medical School, who graduates next year.

Dr. W. C. Christian has been elected professor of anatomy of the Medical College of Virginia. He was for some time professor of anatomy in the medical department of the University of Virginia.

Dr. C. F. Taylor, formerly a practicing physician of Indianapolis, now editor of the *Medical World,* was tendered a reception by Dr. S. E. Earp, of Indianapolis, another medical journalist, on June 13.

Through the resignation of the hospital trustees, who will be replaced by the general board in charge of the several collegiate institutions of Mississippi, conditions have been so adjusted as to insure the continuance of the University Medical College in Vicksburg. Apprehension had been felt that the college would be discontinued.

The Ohio branch of the National Medical Association, composed of colored physicians, met in annual session at Springfield last week. Officers were elected as follows: Dr. W. C. Gordon, Springfield, President; Dr. S. S. Jordan, of Chillicothe, Vice-President; Dr. E. A. Dale, Cleveland, Second Vice-President; Dr. Frank Johnson, Cincinnati, Third Vice-President; Dr. Method, of Columbus, Secretary, and Dr. Lloyd Cox, of Dayton, Treasurer.

At a recent meeting of the faculty of the East Tennessee Medical College, department of the Lincoln Memorial University, at Cumberland Gap, Dr. H. W. Lynn was elected superintendent of the Lincoln Memorial Hospital; Dr. S. L. Jones dean of the university department; Dr. S. D. Acuff secretary and treasurer, and Dr. S. L. Shadder registrar.

Virginia has done more during the last twelve months to fight tuberculosis than during all its previous history, according to a statement made public by the State Anti-Tuberculosis Association. The State has given more liberally for tuberculosis work, private individuals have been more generous, and the cities have shown more interest in the work than ever before.

During the last few weeks the records of all Chicago milk dealers have been carefully investigated and tabulated. All milk dealers found not complying with the ordinances were notified to call at department headquarters and give a full account of their milk supply, and to receive definite instructions as to what will be required of them if they are permitted to continue selling milk.

At a joint meeting of physicians and ministers at the last regular meeting of the Harris County, Tex., Medical Society, several clergymen spoke of the lack of co-operation betwen ministers and physicians as a thing to be deplored. They admitted that both occupied widely different fields, but that when the patient and members of his family sought the ministrations of a minister that the physician should offer no opposition, as the spiritual welfare was perhaps of greater moment than the physical. That the visits to the sickroom by the minister should be made with the knowledge of the physician was admitted, and it was further pointed out that the closer co-operation between the men of the pulpit and the men of medicine would result in great good to both.

The Indiana State Board of Health has adopted a resolution calling on all municipal authorities to see that the people of the State, in celebrating July 4, abstain from the "traditional" use of fireworks, in the interest of life and limb of young America. "Our purpose in this," said the secretary, "is to call attention as forcibly as possible to the dangers which have heretofore accompanied the use of the giant cracker, toy cannon and the various other dangerous devices for making noise. We do not wish to interfere with the pleasure of the youngsters, and, incidentally, the older folk, but we do wish them to use some sense in enjoying themselves. The State ought to go through the celebration this year with as many eyes, as many fingers, as many arms, and as many lives as it enjoyed when beginning the noise making."

In the case of the State of Indiana vs. Hazlitt, now before the supreme court, that body is asked for the first time to decide whether faith healers may be prosecuted under the State law for practicing medicine without a license. Mrs. Lida W. Hazlitt, of Richmond, was the defendant in the action. Dr. W. F. Gott, of Crawfordsville, Secretary of the State Board of Medical Examination and Registration, signed the affidavit. Mrs. Hazlitt claimed she was not practicing medicine and therefore could not be convicted of practicing without a license. She declared she worked through a divine agency and without any other means. Her prosecution was undertaken after Lillian May, a New Castle girl, had died while under her care. She was tried in the Wayne circuit court and convicted. Her case is now before the supreme court on appeal.

Dayton, O., Notes.

The Dayton Academy of Medicine will hold their annual picnic on Wednesday, June 29.

Alfred A. Pew, an advertising quack of Dayton, O., has been arraigned in police court on the charge of performing a criminal abortion. The victim died at St. Elizabeth Hospital, June 12.

The Homeopathic Society of Dayton were entertained to a luncheon and an excellent paper on the subject of "The Early Diagnosis of Tuberculosis," at the home of Dr. Leo. Schram, on Monday, July 13. At this meeting the following officers were elected for the ensuing year: President, Dr. T. L. Laughlin; Vice-President, Dr. Clarke

(*Continued on page 674.*)

Contributed Articles.

INJURIES TO THE ABDOMINAL CAVITY WITH ESPECIAL REFERENCE TO THE GENITO-URINARY TRACT.

BY A. DAVID WILLMOTH, A.M., M.D.,
LOUISVILLE, KY.

IN the last quarter of a century the advances made along the line of surgery of the abdominal cavity and the organs contained therein have been so rapid and the results so gratifying that two things were inevitable. First, it was hard to keep pace with the procession working in this particular field; second, and by no means least, is the fact that men not trained in surgery often fail to appreciate the fact that any injury, however small it may seem, to the cavity or its contents may present such symptoms as to at any moment put it in that class of cases usually spoken of as major surgery.

To the surgeon whose business relations cause him to see a large number of accidents each year, the above notations are repeatedly brought forcibly to his attention; he is also brought face to face with the fact, *for a fact it is,* that many injuries with no visible lesions are followed by rapid and fatal symptoms, which, on the autopsy table, are found to be due to the most extensive intra-abdominal lesions.

Another fact, to be kept foremost in our minds, is the one that applies to the work in the cavity itself; no surgeon should open a cavity unless he is familiar with the normal cavity, also the surgery of the cavity, that he may be able to treat any emergency. With this data clearly in mind the emergency surgeon fills to the highest degree those three great aims in the true physician's life, viz.: To save life, to restore function, and relieve suffering.

Nowhere in surgery can the above be more fully elucidated and put to wider use than in the injuries which this paper attempts to bring before you. One does not have to practice long to be fully convinced of the great numbers of injuries to the intra-abdominal organs, and especially the kidneys, *in which there is no external evidence at all.*

While all are ready to admit the infrequency of these cases, in comparison to many others, yet it cannot be questioned that many such cases are not diagnosed and fewer still reported.

In presenting these injuries, I desire first to consider the kidney, and proceed with the organs as they occur along the tract. In studying these it is interesting to note the degrees of injury the kidney may receive.

Only in recent years has the kidney been studied separately in a way to give us reliable data. Its being so snugly hidden away in the abdomen no doubt explains the lack of attention to this organ. Up to 1878 only 71 cases could be found in literature, and in 1896 only 306; 241 of which were free from other complications, yet Morris states that subparietal rupture is by far the most frequent injury that occurs to the kidney. This statement, I am convinced, is a correct one, since many injuries to the kidney are slight and do not attract attention, while on the other hand in many cases other organs are severely injured and cause the kidney to be overlooked.

The injury may be of any degree and, for the sake of study, the classification of Schede is perhaps the best, and is as follows: (1) The fatty and fibrous capsule is injured without injury to the parenchyma, in these cases the blood is diffused in the fatty capsule or between the kidney and the capsule, terminating by the formation of connective tissue or in the blood becoming encysted. (2) The parenchyma may be contused so as to allow the escape of blood into the tissues, even though no macroscopical rupture is visible, at other times the small stellate tears are visible but do not involve the pelvis (such cases are found at autopsy, the patient dying from other causes). (3) The tear or tears may penetrate the renal pelvis and may be of any degree of severity, the hemorrhage is usually severe and infiltrates the surrounding structures, it may block the ureter and cause the urine to accumulate in the region of the kidney, giving rise to a large fluctuating tumor and ending, if allowed to remain, in a para-nephritic abscess. The blood may fill the bladder, or it may remain post-peritoneal and accumulate in the mesentery, or along the spermatic cord, finally reaching the scrotum in the male or the labia in the female. (4) The kidney may be crushed to pieces and, should the patient survive the hemorrhage, the pieces that are entirely torn loose will cause, as a rule, gangrene and death. (5) Those of peri-renal injury, where the vessels are torn or the ureter ruptured, such injuries are necessarily severe, the patient may die from the hemorrhage, the urine may become extravasated with its many serious results, or the kidney may become gangrenous from the injuries sustained.

In children under ten years of age, where the kidney is ruptured, the peritoneum will be torn in nearly every case if the rupture is on the anterior aspect of the kidney, due to the peritoneum being separated from the kidney at this site by a thin fascia only.

Since we are dealing with instances in which there is no external evidence of injury, it is interesting to note how these many varieties may be produced. If a blow is received in the region of the kidney, either behind, in front, or on the side, or the patient squeezed between moving objects, or run over, the explanation is evident, for the ribs may be pressed in and the kidney caught between

* Read before the Ohio Valley Medical Association, November 11-12, 1909.

them and the vertebra or their processes. It must also be remembered that energetic contraction of the diaphragm may cause rupture, the kidney being bent on itself, as Keen has suggested, causing it to tear in the direction of its tubules.

Curran Pope has suggested that any traumatism to the body, where the waves of force are transmitted in lines parallel to the body, is very apt to cause disturbances of more or less seriousness to the kidney, the extent of the lesion of course depending upon the force applied, displacement of the kidney being the one most likely to follow this variety of traumatism. For medico-legal reasons, if no other, it should be remembered that such things as lifting weights, jumping, labor, etc., may cause renal rupture.

That hydraulics play some part in the extent of the injury, is well proven by distending the kidney, tying the arteries and veins, throwing the kidney against the floor, and noting the results; the same thing can be done by filling the kidney with water, tying the ureter and throwing it on the floor, the distended organ tearing much more than one not distended.

Age and sex plays only such parts in these injuries as one would naturally expect. From 10 to 50, being the active years, more are seen in those years.

Males, from their habits of life, are submitted to dangers that females are not, hence the greater number in males.

With the above facts as guides, we pass to the most important part, viz.: The diagnosis, for, as in most conditions we have to treat, the diagnosis once made little difficulty remains.

The symptoms depend on the gravity of the injury, the average case presenting enough symptoms to make the diagnosis reasonably certain. Symptoms may be immediate or continuous in character, or may come on late, as in the case reported by Mynter (*Annals of Surgery,* Volume 14, 1891). In the cases that have come under my observation pain has been the first symptom noted, the severity of which varied from the slightest to the most excruciating. It is usually boring or shooting in character, often causing spasm of the cremaster muscle. Change of position increases it, the patient assumes a fixed position and refuses to move or allow even an examination for fear of exciting it.

In those where the pain was intense at first it was found that the parenchyma had been crushed, the capsule was being stretched, or the surrounding soft parts and bones had been injured.

My observations have also led me to believe that in those cases where the capsule was being stretched, the ureter obstructed, the pain will not only be felt in the lumbar region, but will be referred to the thigh and testicle. Referred pains may at times be caused by the blood becoming extravasated along the ilio-inguinal and genito-crural nerves.

When the pain is slight in the region of the kidney immediately after the injury, but which increases in severity, it usually indicates a hemorrhage, or that the urine is obstructed, or both, giving an increased tension and possibly a tearing of the parts. The passing of blood clots through the ureter may give nearly the same symptoms. Vomiting usually takes place, continuing at times for days, either as the result of pain or irritation of the blood in the peritoneal cavity.

One of the first symptoms to which attention is called in the books is collapse, which comes on almost instantly, and may last from one to many hours, many cases appearing to be in an extreme condition for several hours and occasionally for days. While my experience has been rather limited, I am forced to conclude that injuries to the kidney are not so often followed by symptoms of shock as the books would have us believe. I believe that kidney injuries can be placed in the same category as gun-shot wounds of the abdomen, with damage to the viscera, and all of us know how infrequent it is to have marked shock as a symptom, even in the most extensive injuries, unless hemorrhage is taking place in the cavity.

Morris called attention of surgeons to the fact that the kidney could be mashed to a pulp without having the patient show signs of shock for a number of hours in which cases hemorrhage is the usual cause.

Most cases will show some external signs of injury, such as ecchymoses, local swelling, or both; either one or both may, or may not, be associated with a skin abrasion. This local swelling, if of slow development and in the lumbar region, would indicate one of two things, blood or urine, or both, accumulating in the pelvis of the kidney or the fatty capsule.

Perhaps the symptom most commonly looked for is hemorrhage, yet it is by no means constant. It is often absent in the slight injuries, for the reason that the rent in the kidney does not open its pelvis, and may be absent in the extensive, due to the ureter being ruptured, but in the majority of injuries to the kidneys more or less blood will be found in the urine at some time. If the hemorrhage is small in amount and has time to clot, either in the pelvis of the kidney or in the ureter, several hours may elapse before any blood will be found in the urine and more or less pain will precede the passage of the urine. If this hemorrhage is larger in amount and no obstruction is offered to its flow into the bladder and the bladder already contains some urine the patient will in a very short time feel a desire to urinate and the water passed will have any color from slight stain, as if meat had been washed in it, to that of a bright red color resembling pure blood. If the shade is reddish-brown, it means that the amount of blood in the urine is small, and that the urine has been acting on it for an appreciable time. In this class of cases clotting never takes place.

If the bladder is empty at the time of the injury

the blood that flows into it will clot and the bladder may be completely filled with a coagulum. The patient, however, soon makes an effort to empty the bladder and finds that after straining he is able to pass only a few drops of urine mixed with blood and some fragments of the blood clot. It must be remembered also that blood may find its way into the bladder from injury to the bladder wall itself, hence a differential diagnosis must be made as to the source of the blood.

The following simple measures, if constantly borne in mind, will usually direct us to the correct site.

First blood from the kidney will appear, as a rule, in cylindrical clots the size of the ureter; or, if it is mixed with the urine, the first and last that is passed at urination will contain an equal amount. If from the bladder, the last will contain a great deal more than the first. Next, in washing the bladder, if the hemorrhage is from above, after the bladder is once washed clean the water will return clear for a short ime, while in hemorrhage from the bladder blood will always be present.

Finally, the cyctoscope, if the bladder can be gotten clean, will show conclusively the source of the bleeding. Chemical analysis of urine that contains blood will, of course, show the presence of albumin.

So far we have only considered hemorrhage that did not escape into the peritoneal cavity. Where the peritoneum has been torn and the hemorrhage can escape directly into the cavity, only such symptoms will be present as are common to concealed hemorrhages, and the surgeon's diagnostic powers may be taxed to the limit before he is sure of the condition with which he is dealing. If it is possible to have it made, a blood count will help materially to clear up the diagnosis.

A traumatic nephritis often follows a traumatic hematuria. Such cases, after a few days of absence of any foreign matter in the urine, will suddenly show albumin, larger and smaller casts, etc. Before leaving the subject of hematuria, mention must be made of those cases in which blood appears in the urine after a slight palpation of the kidney during examination. These must not be confounded with those due to injury, and teaches us that urinary specimens should be the first thing obtained. Also, hematuria due to a pre-existing cause should be looked for in every case of injury. Dr. Tiffany called attention to the fact, many years ago, that in the region from Washington to Cape Chesapeake the slightest injury would be followed by blood in the urine. An examination of the blood proved that the frequency of these cases was due to malaria and not to injury.

Another symptom appearing early is anuria or oliguria. This is not a common symptom to an extreme degree; only in rare cases the kidney, if badly crippled, cannot excrete a normal amount; but, if the blood pressure is not reduced too much, and any parenchyma remains, there will be some function.

In instances the anuria may be complete where only one kidney is injured. Massius called attention to this condition, and gave as an explanation that both the vagus and splanchnics contain fibers that tend to contract the renal vessels if irritated, and complete anuria would result as a reflex symptom.*

From the above symptoms one will usually be able to make a positive diagnosis of kidney injury if that injury is at all severe. Slight injuries will often be overlooked, but are not important so far as the life of the patient is concerned. After a diagnosis is made it is important to determine, if possible, the character of the injury and the presence of complications in other organs. These are made necessary that the patient may be protected from the infiltration or retention of urine, from the dangers following quantities of blood in the urine, and from anuria and oliguria.

The prognosis of kidney injuries of the milder type are very favorable indeed. In pathological specimens removed from patients dying from other causes, extensive injury of the kidney will occasionally be found that has entirely healed. In those that are complicated the mortality is much higher, ranging from 50 to 85 per cent., this difference depending on the length of time that has elapsed after the patient is injured before a diagnosis is made, and last, but by no means least, the character of the treatment that is carried out.

In those cases of injury to the kidney that are slight in character, the symptoms usually present are: Pain in the lumbar region, possibly vomiting for the first few hours after the injury, followed later by slight hematuria. Little treatment is needed —rest in bed, light diet, the use of some slight styptic, such as the dist. ext. hamamelis, and the keeping of the patient's bowels open will be all that is required.

Those more severe, but still to be treated by the expectant plan, should be managed along the following lines: As pain and shock are the two most prominent symptoms, they should receive the first attention, and, fortunately for the surgeon, both are relieved by the same treatment.

No one remedy, and I may say no class of remedies, will do so much good as a single hypodermic of morphine. It relieves the pain, quiets the excited patient, places him in condition so he can be moved (if necessary). It is also one of the best medicinal agents known for the controlling of shock, and it also controls the peristalsis of the colon that overlies the injured kidney, thus preventing the hardened contents from passing over the kidney, thus preventing the possibilities of further hemorrhage from any irritation that would be produced. Strapping of the injured side may also assist in controlling pain. The straps should begin at the crest of the ilium and extend to the ribs, and should start just behind the spinous processes behind and reach beyond the middle line in front.

The patient should be put to bed, and absolute rest insisted upon.

The use of styptics, such as adrenalin, gallic acid, preparations of iron and ergot, may all be tried, but little is to be expected from this line of treatment.

If the large bowel be filled with hardened contents, it should be relieved by oil and water, so that rest for several days may be obtained. If the bowel is empty this is not necessary. The patient should be fed only a light diet, and the amount of fluids given should be limited, in order that the kidney may have as little work as possible to perform.

The stomach should be watched for the first few hours to prevent, as far as possible, the vomiting from which many patients with this class of injuries suffer. If vomiting occurs when food is taken into the stomach, nutrient enemas should be used to sustain the patient. Ice coils should be used to the back and lumbar region if hemorrhage is persistent.

Stimulants must be used with caution, for it must be remembered that while we relieve the cerebral anemia by their use, we at the same time increase the blood pressure, thereby keeping up the hemorrhage; if a thrombus is formed in a vessel it may be forced out and a renewed hemorrhage take place.

The bladder should be emptied, to relieve any retention that might be caused by the shock, as well as for the purpose of diagnosis. The above treatment is the one to be followed until the question of operation is disposed of.

In some cases the question of operation will have to be decided upon at the very first. If it can be disposed of, the above line of treatment may be continued. If not, then we should remember that interference has three objects in view, viz., to stop hemorrhage, drain infection and relieve acute retention, and the following six indications will direct us as to the time for operation: (1) When the symptoms shown lead us to suspect that the peritoneum has been torn and blood and urine has been escaping into the abdominal cavity; (2) when the hemorrhage is so profuse that the patient may die from this cause if any time be lost; (3) when serious hematuria persists; (4) when the flow of urine through the ureter is constantly being interfered with by blood clots; (5) when there are signs of blood and extravasation of urine into the loin; (6) when there are signs of perirenal suppuration. While conservatism is to be encouraged, expectant treatment must not be tried too long. There is no class of cases where the old axiom, "Procrastination is the thief of time," applies more fully than in that of renal injuries.

Of the 319 cases collected by Delmet, 225 were treated expectantly, with 103 deaths. It is but fair to state that some of these cases were not operable when first seen. Watson collected 273 cases with 81 deaths; 99 treated with conservative operation with 7 deaths; in 115 nephrectomies 25 died.

In the study of the cases it must be remembered that those treated expectantly were the simplest variety, while those coming to operation were *a priori* serious ones.

This should convince the most skeptical of the necessity for early interference. Again, the work is done much simpler than in former years. Not many years ago a compound fracture was a positive indication for amputation; so also was an injured kidney positive indication for nephrectomy.

To-day more conservative work in most cases is all that is needed, the complete operation being reserved for those cases in which the kidney would be useless if allowed to remain, or in which the main blood supply is destroyed.

The kidney must be explored before it can be determined to what extent interference is needed. This exploratory incision should be through the lumbar region if the peritoneum is believed to be intact, but in those cases in which the peritoneum is believed to be injured, and the kidney lesion only one of perhaps many injuries to the abdominal cavity, then the incision should be made along the border of the rectus muscle on the side of the injury. This allows of thorough examination of the entire abdominal cavity and its contents, which is difficult in the extreme from the lumbar site.

If the tear in the kidney can be approximated, one or more mattress sutures of catgut should be used to close the rent with continuous sutures to the capsule, or circular method of suture may be used to close the entire wound, the first one being the one of choice in a long rent. Damage to the large vessels near the hilum will necessitate their individual ligation, and where the renal artery is torn the kidney, as a rule, should be removed.

If a part of a kidney is badly destroyed, partial nephrectomy will be required. In the hands of those not experienced in kidney work bleeding will be the cause for greater worry than one would at first imagine. To these I would suggest the use of gauze packing, which I believe to be by far the quickest, surest and safest means at hand to stop the hemorrhage. This is very important to remember, since on this one thing depends whether or not a partial or complete nephrectomy is to be done.

INJURIES OF THE URETERS.

Subcutaneous injuries of the ureters are rare, only a few cases being reported up to the present time. Injuries to these organs are, of course, not infrequent during surgical operations in this region or accompanying injuries to the kidneys, etc. Of the injuries that would most likely produce a rupture in this organ, forcible pressure at the level of the umbilicus is the most prominent. This pressure may be produced by a heavy weight passing over the body, or by a squeeze. It is possible for it to be crushed by being pressed against the tip of the transverse process of the third and fourth lumbar vertebræ. Overstretching may also produce a small number of ureteral injuries, but the statistics at hand show more than one-half of the cases are

produced by antero-posterior compression of the body.

Age perhaps acts in a contributory way, since nearly every case reported is under thirty years of age. This is readily understood when we stop to think that in the young the ureter is less firmly fixed to the peritoneum. This admits moving out of the way when pressure is applied, the peritoneum giving way just external to the spinal attachment, thus saving the ureter.

As few ruptures of the ureter have been actually seen, results of injuries to it can only be explained by reasoning along the following lines: First, it may be simply contused, its wall having been torn only partially through; second, the cellular tissue surrounding it may be damaged along with the ureter to such an extent that it may be blocked by pressure from blood clot or the products of inflammation.

The symptoms of ureteral injuries are not characteristic. The presence of blood in the urine is by no means constant, and if present could not be differentiated from hemorrhage higher up. The only symptom that is at all pathognomic is the constant escape of urine from a sinus leading down to the ureter, the sinus being the result of extravasation of urine, and the destruction of tissue coming on several days after the injury was sustained; or, in those seen earlier, there may be a sausage-shaped tumor along the course of the ureter, with more or less tenderness, fever, etc., which should excite suspicion and cause further investigation from below through the bladder, etc. Fortunately, this difficulty in diagnosis does not affect the results so far as the life of the patient is concerned, the symptoms of ureteral and kidney lesions that demand interference being nearly the same, and the methods of dealing with each are likewise along the same lines.

When the ureters are injured, and the seat of injury unknown, such operative interference should be selected as will enable the operator to deal with as much of the organ as possible. The retroperitoneal route gives access to nearly all its length, the transperitoneal route being reserved for those cases in which the lower portion of the ureter is to be dealt with.

The first-named route is especially commendable in injuries, for the reason that it allows an exploration of the kidney through the first part of the incision known as the lumbo-iliac portion; then, if the indications demand it, the incision can be lengthened downward and forward by giving it curve enough to pass one inch inside the anterior-superior process. If more room is needed, it can again be lengthened by going parallel to and above Poupart's ligament. One fact must be borne in mind: The ureter adheres to the peritoneum when it is lifted forward.

I can do no better than to quote Morris on the method of dealing with these injuries. (1) To ligate each end of the ureter and drop it back into the cavity. (2) To ligate the distal end and to suture the approximal one into the wound. (3) To restore the canal by some form of anastomosis. (4) To graft the proximal end into the bladder. (5) To graft the proximal end into the bowel. (6) To detach the bladder so as to create a diverticulum which shall supply that portion of the ureter that has been destroyed. (7) To do a nephrectomy.

It is needless to say that any operation that has for its object the restoration of the ureter is the one to be preferred, but, unfortunately, what seems ideal in principles cannot always be carried out in practice; as, for instance, a wound of the ureter low down, or where there are fistulous openings present, plantation will have to be done if conservative work is to be thought of. It is to be remembered that implantations into the bowel are apt to be followed by infection from that source up to the kidney.

INJURIES TO THE BLADDER.

It may well be said that rupture of the bladder is the most dangerous injury that can happen to the genito-urinary system. The study of the location and arrangement of the bladder will cause us to understand at once that rupture most often takes place when the organ is filled. Aside from this, fractures of the pelvis furnish most cases of bladder injury, being the contributing cause in about 90 per cent. of the cases reported.

A force that is powerful enough to fracture the bony pelvis will in most cases leave in its wake injuries also to the bladder. The injuries sustained by the bladder may be either intra- or extraperitoneal, 85 to 90 per cent. being of the first variety. The early diagnosis of injuries to the bladder is the all-important thing, as inactivity and deferred activity tend toward the same result—death. The importance of an early diagnosis is forcibly brought out in the mortality lists following operative interference.

Of those that are diagnosed and operated on in the first twelve hours twice as many get well as those diagnosed and operated on during the second twelve hours.

Among the symptoms, shock is perhaps the first that is noticed. If the patient is under the influence of liquor, life may be destroyed before he ever regains consciousness. Where the shock is less marked, the patient will in a short time after the injury complain of an intense desire to empty the bladder, and when allowed to try will pass but a few drops of blood or bloody urine, and when the catheter is introduced the bladder will be found empty. If care is used in the introduction of the catheter, and especially if it is a metal catheter, an obstruction will be met with shortly after entering the bladder with the tip of the instrument, but if the instrument is moved from side to side it may be felt to pass through the opening into a larger cavity, and at this time a quantity of blood and urine

may flow out, this fluid either having been accumulated in the abdominal cavity or the connective tissue surrounding the bladder.

As intraperitoneal ruptures usually involve the posterior wall, the accumulated fluid will be found in the abdominal cavity. The diagnosis of fluid in either instance is difficult to determine, either by palpation or percussion or both. Intense pain is usually felt in the region of the bladder, radiating in some cases over the entire lower abdomen. Nausea and vomiting may be present. Since it is so important to make a diagnosis early, such diagnostic means should be kept in mind as can be used at any place, at any time and by any one. One of the safest, and at the same time one of the surest, methods of diagnosing intraperitoneal rupture, is by taking a measured amount of normal saline and running it into the bladder; if there is a rupture, the globular-shaped tumor denoting a full bladder will be absent in the middle line above the pubes, and if enough is used a dullness will be found on either side of the cavity.

If the fluid is withdrawn, the amount removed will be markedly less than the amount run in. This method, if followed by an early operation, is, to my mind, one of the safest and simplest that can be used.

In familiar hands the use of a cystoscope makes such a measure unnecessary, for you have but to look and see to know to a fair degree of certainty the exact place and extent of the injury before operation is undertaken.

Those cases of extraperitoneal rupture may be overlooked for several hours, or even days, and not be diagnosed until the peritoneum and scrotum become infiltrated with urine and pus, and a septic condition has begun. Such cases will, of course, show at this time the constitutional symptoms of sepsis.

Since from 85 to 88 per cent. of all injuries are intraperitoneal, the absolute necessity for early interference needs only mention. The mortality in wounds of the bladder ranges from 27.5 per cent. in some statistics to 90 per cent. in others.

The large number of deaths recorded in these statistics furnishes evidence that many lives are sacrificed by procrastination, or that imperfect diagnoses are made, or that the patient was unnecessarily afraid of the word operation.

Before the days of asepsis, when cavity surgery was fraught with so much danger, delays were justifiable, and some excuse could be given for not interfering, but to-day, with our present knowledge of controlling infection and meeting the various complications in the cavities, no one is or should be excused for delaying the only means of saving the life of the patient. Every case of injury to the bladder should be given a careful examination, and, if rupture is suspected, should be treated at once by operation.

DISCUSSION.

Dr. E. O. Smith, Cincinnati: I am sorry that Dr. Willmoth did not have time to finish his paper, as certainly as far as he had gone it is very interesting, and he has covered the ground very thoroughly and carefully.

These injuries to the kidneys are not very frequent, but when they do occur they are very important, and need prompt and intelligent treatment. The anatomy of the kidney and the blood supply is very important in surgical treatment of the kidney, especially if the damage has been an extensive one. It is always wise in surgery to conserve all the parts possible, and this applies to surgery of the kidneys as well as any other part of the body, and you can see that if any portion of any pole is remaining uninjured, and the blood supply is not damaged, you can conserve any portion of the kidney even after the other parts have been removed. This is important, because the condition of the other kidney may not be entirely normal.

When to operate is the point in these cases. If the patient is in extreme collapse when you first see him after a severe traumatism—and sometimes it does not take a very severe one—if he shows extreme collapse, and does not recover from the shock of the collapse in a reasonable length of time, I think you are justified in opening the abdominal cavity or over the region of the kidney. The rupture of the kidney does not occur very early, the hemorrhage may not show in the urine right away, and the tumor swelling does not form very rapidly. At any rate, the incision in the side can do but little harm and may save the patient's life.

One case came under my observation. It was a case where I presume the rupture was similar to the one the doctor illustrated here. It was a man who was walking across an open lot at night where there was but little light, and there was a hole in the ground, something like a post-hole, only not so deep. His foot went down into it, but he caught himself, and, while I did not see him in the early part of this trouble, the family physician who took care of him at the time gave me this history. The pain was excruciating, great tenderness over this region, and in a short time blood appeared in the urine. He did not suffer any great collapse and no shock of a serious nature, and the physician very wisely advised him to remain in bed. And now the important point comes. This man got entirely well, with exception of pains which continued in that right side. The family physician called me up at this time. He had already advised exploratory operation; so we opened him up and found that on the under surface of the kidney there was a small scar. We lifted up this adhesion, put the kidney back, and the patient never had any more trouble.

Dr. A. E. Sterne: I would like to ask Dr. Willmoth, suppose an injury such as Dr. Smith has just spoken of, where the pain continued, otherwise the patient getting along very well, the pain presumably being due to an adhesion; if this were left unoperated, would or would not in the course of time the pain disappear, if you were certain, for instance, that no urethral injury had been sustained? Would

any harm arise to the patient from that source if left?

Dr. Willmoth: I do not think any harm at all can come unless the kidney had been taken out of its normal position. I see no reason why this adhesion would not finally get well.

SYSTEMIC MANIFESTATIONS OF TUBERCULOSIS.*

BY B. F. LYLE, M.D.,
CINCINNATI.

THIS paper will attempt to show that in tuberculosis the lesions are more or less general in extent and diverse in character, and that the recognition of these facts is necessary for proper treatment.

When we contemplate the special senses we recognize that the cognizance of various phenomena and conditions is not all-embracing, but limited. For instance, our vision perceives only a portion of the extent of the spectrum; the ear can detect only sounds of certain wave-lengths, and our taste is limited to the detection of four qualities.

In its relation to diseases that affect animal bodies humanity, fortunately, does not possess a universal susceptibility, but is vulnerable to only certain infections and morbid processes.

This limitation is found to be further specialized when the individual becomes ill and only certain organs or tissues are attacked. These also may possess a varied vulnerability at different age periods.

There is no doubt also that diseases may be modified in severity, and possibly in character, at times.

Years ago we were wont to hear with unexpressed credulity an old man speak of the changes in susceptibility to disease caused by the epidemic of cholera in the forties.

Still, we have recently witnessed a like change in the malignancy of smallpox that is incomprehensible. In the epidemic that occurred in our city in 1894 the death rate was 48 per cent., and in preceding years seldom less than 25 per cent. During the ten years beginning with 1898 the rate was less than 2 per cent.

No so-called modification of susceptibility through the influence of vaccination can explain this sudden loss of virulency.

Tuberculosis at first appears to be a disease that has none of the limitations that characterize other diseases, as it is universal in its prevalence throughout the animal kingdom, and no tissue is exempt from its local manifestations.

Closer observation shows this exception is apparent rather than real, as the tubercle bacilli require a relay of five varieties to encompass the animal kingdom, no member of which is susceptible to all.

In man, invulnerability exists to all but the human variety, except in early years, when the bovine is also pathogenic, the surgical forms of the disease being largely attributed to it.

While vulnerability is almost universal in man, there is no doubt of the ability of normal healthy individuals to withstand its early encroachments to an extent capable of suppressing subjective manifestations. This is proven by the results of the tuberculin test on apparently healthy individuals.

There is also no doubt that persons not endowed with robust forms may enjoy comparative immunity as a legacy from ancestors who have successfully resisted the pernicious influences of the disease under adverse conditions.

Pathologically and clinically tuberculosis is a manifestation of the local effect of the bacilli and the local and general effect of the toxins they generate.

It is seldom that the bacilli exercise an acute influence that is mechanical in its nature through size or power of numbers; although it is difficult to account for their presence in most organs and tissues without recognizing the blood current as the principal channel of dissemination, and localization as a form of embolism in the terminal arteries of Cohnheim in the lungs, or in localities having a natural selective power or an artificial condition favoring the retention of the bacilli.

In some instances in which this filtrative power seems in abeyance, we have a condition simulating a septicemia. Again, when the bacilli are abstracted in large numbers we have a general tuberculosis, an acute miliary tuberculosis of the lungs or a caseous pneumonia.

There is little doubt that the lungs are frequently primarily infected, for the germs can be obtained in the lungs within five hours after they have been experimentallly introduced into the intestines.

Next to the lungs the lymphatics show the most frequent involvement, and fortunate is the individual who has the advantage of their inhibitive influence.

While scrofulous conditions alone exist, no serious consequences ensue except of a mechanical character. Frequently the process never extends, and after its subsidence the individual seems to enjoy a degree of immunity from the disease.

During this period of the tuberculous process we have no subjective signs; but the tuberculin test will prove positive. This indicates that already absorption of the toxins has occurred.

The location of the lesion whence the system becomes intoxicated with a multiplicity of germs is sometimes impossible to discover. It is hardly probable a sufficient number could be absorbed without antecedent culture. Frequently a softened focus in the lungs, lymphatic nodes or intestines, indicates the primary infection.

We must recognize, however, that either through the agency of the germs themselves or more fre-

* Read before the Academy of Medicine of Cincinnati, April, 1910.

quently their toxins, the first symptoms of tuberculosis are of hemic origin.

While the source of the germs and their toxins is almost invariably found in the solid tissues, there is reason for believing that the blood itself may permit their growth. This is exclusive of their presence in the blood which occurs exceptionally in chronic pulmonary tuberculosis, but frequently in large numbers in the acute and subacute forms, particularly in caseous pneumonia.

Vargas divides tuberculosis of the blood into three varieties, depending upon the effect produced. The latent sanguineous, bacillemia, and acute sanguineous tuberculosis. In the first, anemia is the only symptom. Prof. Labbe calls the pallidness of the skin "ochrodermia," which is of various grades; first, without alteration of the blood; second, with general pallor, faintness and fatigue, the blood-cells decreased and the hemoglobin down to 0.75 or 0.65; in the third chlorotic changes are found, the red cells are between two and four millions, the hemoglobin greatly reduced.

In bacillemia, bacilli are found in the blood, fever, dyspnea and albuminuria being the principal indications. The temperature curve is typically tuberculous—subnormal in the morning and high in the afternoon.

The third form, the *Typho-bacillose* of Landouzy, is apt to be mistaken for typhoid fever. There are continuous high fever, anemia, gastric disturbance, vomiting and diarrhea and marked emaciation. Most of the cases recover to a degree, but after an indefinite period, sometimes as long as six months, symptoms of local lesions are manifest.

While this bacteremia is transitional and exceptional, and ultimately ends in focal tuberculosis, the conditions present are those found to a varying degree in all cases of tuberculosis.

From the bacteremia arises the secondary tuberculosis of other organs, while the toxins occasion degenerative changes and functional disturbances. Fortunately, there are certain inhibitory elements in the blood that are antagonistic to the bacteria and their toxins, and through their interrogation by means of one of the tuberculin tests we are enabled to recognize the presence of tuberculosis.

We may regard as the usual course of tuberculous infection absorption of the germs at the point of contact by the lymphatics; transmission by them into the blood current; thence it is screened out by the lungs; the blood is again infected and other organs become involved.

The process may be checked at any of these stages.

Through the irritation created in various organs and tissues we are indebted for valuable diagnostic signs, the most important of which is the temperature curve, shown by a rise of from one-half to two degrees during the early afternoon and a depression beyow normal in the morning. The pulse is weak and quickened; the respiratory rate increased; weight reduced; general lassitude noticeable; nervous and muscular irritability shown by the dilated pupils, the exaggerated contractility of the muscles to slight irritation, incapacity of performing former mental and physical tasks, physical changes manifested by irritability of temper and that lack of proper judgment manifested by indifference to ordinary rules of health, and the *spes phthisica,* which is allied in results to the *bonhommie* of the inebriate.

We can better appreciate the universality of distribution, the diversity of pathologic changes, and the protean character of the manifestations in tuberculosis if we review the nature of the lesions, their relative frequency and symptoms as they are manifest in the various organs and tissues of the body. Detail will be avoided, as it is the purpose of the paper to emphasize the fact that in treating consumption our field of action may be the entire body and not the lungs alone.

The pathologic agencies with which we have to deal are the tubercle bacilli and germs of secondary infection; the tubercle and more extensive inflammations, caseation, fibrosis, congestions, infiltrations and degenerations.

We shall take up the systems and organs in the order in which they may become infected.

Two-thirds of all cases have tuberculosis of the tonsils; it is found primarily in 5 per cent. of cases. Five per cent. of children are said to have this form of tuberculosis.

Infection travels in most instances to the cervical glands. In 80 per cent. of cases in which these glands are enlarged, tuberculosis is said to be the cause. It is doubted that the disease can extend directly from these glands to the pleura and lungs, the infection being carried by the lymphatics to the veins.

Dowd reports that in cases operated upon 90 per cent. offered a favorable outcome. This was realized in all but 10 per cent. The lymphatic tissues are supposed to have a destructive or at least inhibitory effect upon the growth of the germ. Lymphatic involvement is seldom accompanied by any manifestations other than mechanical, although the toxins liberated may cause anemia.

At times pressure by enlarged bronchial nodes upon the recurrent laryngeal nerve may, by causing paralysis of a vocal cord, lead to the diagnosis of tuberculous ulceration. From pressure on the vagus tachycardia may arise. The abdominal nodes, through pressure upon the nerves emerging from the spine, may cause pain in the back and in the regions supplied by these nerves. Spasmodic contraction of muscles may occur, with stiffness of spine and inability to move with customary freedom.

Intestinal obstruction has occurred, and even erosion of the vertebræ been seen.

In the young the lymphatics are more active than in adults. This is proven by the india ink experiments of Willa, who found the nodes of young animals retain the particles, and a light anthracosis re-

sults, while in adults the anthracosis is very intense and the glands comparatively free.

This experiment may throw some light on the excessive mortality of adult life, as the tissues of the body which have a free blood circulation do not possess marked resisting power and the bacilli in them cannot be dormant for any length of time.

There is no doubt that infection of the lungs may occur from inspiration of the germs. This is not the usual method of infection, and is only possible when the normal activity of the lung lymphatics is compromised by anthracosis or diseased conditions.

The distribution of the bacilli throughout the organism is bound to be followed by colonization in parenchymatous tissue unless the bacilli are destroyed by the blood itself.

The value of the examination of the blood for bacilli as a factor in clinical diagnosis has yet to be ascertained. There is no doubt, from the successful efforts of many investigators, that it is possible to find them. Few, however, have had the success of Rosenberger, who found the germs in 300 consecutive cases of pulmonary tuberculosis. The same investigator, working with Willson, found the germs in the feces of 100 cases in which they were present in the sputum. They were also present in the urine in 38 of these cases. Rosenberger has also found the germs in the feces of 21 per cent. of cases in which the examination of the sputum was negative. In some inoculation experiments he found the bacilli in the feces after three days and in the urine after seven. In another they were found after five and eight days, and in another after six days in the feces but not in the urine.

We must not only recognize the blood as the agent for the dissemination of the disease, but also for its cure. The labors of Metchnikoff and Wright have proven this conclusively, although we are not able to estimate positively the recuperative power of the organism by means of the opsonic index, nor does it offer conclusive evidence in diagnosis. The conservative elements in the blood render invaluable service by making it possible to arrive at an early diagnosis by means of the skin tests. Universal familiarity with tuberculosis in the lungs makes it unnecessary to consider this portion of the topic.

It may be well to note here that the acknowledged greater susceptibility of the meninges of children over that of the lungs is not confirmed by recent investigations, the opinion being that, as in adults, the lungs are first affected, no matter what may be the predominant type of the disease later on. We must also be prepared to recognize tuberculosis more frequently in children than heretofore. In some hospitals where the percentage of cases of tuberculosis was given as one to three, it is now recorded as from twenty-five to forty-one.

The condition of the heart is so important in the symptomatology and prognosis of the disease that its lesions deserve careful consideration. The myocardium is tuberculous in about three cases in a thousand, the pericardium in 1 per cent., and the endocardium twice as often. Organic lesions are not often encountered; the lesions are principally tissue changes of a degenerative or fatty character and are not always readily detected. Dilatation is present in about one-third of the cases of one or all cavities. In ulcerative cases atrophy is usually present, while the fibroid condition is apt to be accompanied by an hypertrophy. In the latter form of the disease the heart may also be compromised by being placed in abnormal positions as a result of lung retraction. The action of the toxins is not limited to the muscle fibers, but acts also on the auto-motor ganglion cells.

Sudden deaths that cannot be attributed to muscular changes may often be found to be due to changes in the ganglion cells.

The voluntary muscles are rarely involved in the tuberculous process except by contiguity. Tuberculosis in the tendon sheaths is much more frequent, the peculiar rice bodies being characteristic.

The liver and spleen are involved in about two-thirds of all cases. The lesions in the liver are extremely diverse, all forms of tuberculous involvement and degenerative changes being found. The gall-bladder is seldom involved.

In about one-half of the cases in which the liver and spleen are involved, the marrow of the bones is likewise infected, the changes being of a proliferative, mucoid or fatty character, principally the former. In 40 per cent. of these cases tubercles were found, bacilli being discovered in some of them.

The kidneys are involved in about 12 per cent. of cases of pulmonary involvement. This seems to be a part of a general infection, for when found in them the liver, spleen and marrow are also involved. Parenchymatous changes due to toxemia are frequent, the degree of which can sometimes be estimated by the albuminuria and the granular and epithelial casts present.

These changes should be an admonition to those who are prone to prescribe a diet in which proteids are excessive.

As Rosenberger has found bacilli present in the urine in 38 per cent. of cases of pulmonary tuberculosis, and as this constitutes three times the number of cases in which we may expect kidney involvement, other conditions, such as hematuria and pyuria, are needed to indicate renal involvement.

The bladder, owing to its squamous epithelium, is, like the mouth and esophagus, relatively free from tuberculosis, and is only involved after the kidneys or testicles become infected.

This occurs in about 30 per cent. of these cases, and is manifested by pain, difficult and frequent micturition, hematuria and pyuria.

The intestines are ulcerated in about 60 per cent. of cases; tubercles are found in about one-fourth of these. The intestines are seldom in a normal condition, and even when ulcerative conditions are not present there may be congestion, enteritis or amyloid changes. There is no absolutely positive method

of making a diagnosis of intestinal tuberculosis. Diarrhea, pain, tenderness and rigidity of the abdominal muscles may be present without ulceration, and absent when it is present. As the disease is always secondary, bacterial examination of the stools will not render available service. The region of the cecum is the chief site of ulceration, and the lymph glands of this region are involved with greatest frequency. Tuberculosis of the appendix is sometimes found under conditions that lead to the inference that it is a primary lesion. This occurs in about 8 per cent. of cases. As from 15 to 30 per cent. of the cows from which butter is obtained are tuberculous, and as butter is an ideal environment in which bacilli do not lose their virulency, the possibility of infection is self-evident. In some instances the ileo-cecal nodes manifest the principal evidence.

Tuberculous peritonitis is found in 3 per cent. of all cases, and with twice the frequency in males as in females. In females it usually begins around the end of a tuberculous Fallopian tube, while in males the cecal region seems to be the usual point of selection.

It is manifested in three forms: First, serous, exudative or miliary; second, nodular or ulcerative; third, adhesive or fibro-plastic. In the first is found general ascites; the omentum and small intestines are pushed into the upper part of the abdomen, the omentum rolled up and thickened, the coiled intestines fused and forming a tumor mass. In the second the process is more localized, but it involves the deeper structures. In the third, adhesions binding the peritoneal layers and causing their union to various organs is the noticeable lesion.

In the brain normal conditions are exceptional. The cortex is atrophied to a greater or less degree, an acute, subacute or chronic leptomeningitis is present, and edema of the outer surface and distension of the lateral ventricles are found.

The toxins in the blood, which cause these changes in the outer membranes, likewise produce similar changes in the choroids.

Enough has been detailed to indicate that in considering tuberculosis our attention must not be concentrated too closely upon the lesions in the lungs. The frequency with which the digestive apparatus is compromised indicates the necessity of carefully selected and prepared foods. The embarrassment of the organs concerned in the formation and distribution of blood is also serious.

While the conditions outlined are the ultimate pernicious results of tuberculous infection, they lead us to appreciate the insidious foe with which we have to contend, and they also indicate that success upon our side will depend upon an early diagnosis and constant, watchful care of the patient.

The Civil War killed 205,070 Americans in four years; consumption kills 800,000 in the same length of time. If "war is hell," what is consumption?—*Bulletin Chicago Department of Health.*

SURGICAL TREATMENT OF TRACHOMA.*

BY S. C. AYRES, M.D.,
CINCINNATI.

THE value of some form of surgical treatment in trachoma is well established. About twenty years ago the ophthalmic journals were full of these methods. The lids were scratched, or rubbed, or brushed, or squeezed, or expressed, and it seemed as if this treatment of trachoma was about to be revolutionized. The most flattering reports of recoveries were published, and several instruments for crushing and removing the granulations were devised. We can safely say that the conjunctiva was the unfortunate victim of misguided enthusiasm on the part of some, based on limited observation.

The pendulum has swung back to a very rational point, and we can now look back on what has been accomplished, and draw more satisfactory conclusions than could have been drawn at an earlier period. The field for surgical treatment is an important one, and the surgeon who does not adopt its most approved features deprives himself of a valuable means of curing this most intractable disease. The earliest surgical treatment of granulations was by general bleeding, but this was abandoned for good reasons, and scarification of the conjunctiva was resorted to. This treatment has been popular for many years, and in certain cases is good treatment to-day. But it is applicable to a limited number, and should be done in a judicious manner. In the earlier stages of trachoma, where there is deep infiltration of the conjunctiva, causing the upper lid to have a lippy appearance, and where it droops and overhangs the lower lid, the local depletion by means of scarification gives much relief. In these cases the lid is so thick that it is difficult to evert it, and when everted there are sometimes hemorrhages from the conjunctiva. This condition is seen occasionally in persons of a lymphatic temperament, with dark skin and long eyelashes, or in blonds or redheads. These two types, in the writer's experience, are the most difficult to treat, and in them the disease runs its most obstinate course. The object of scarification is to relieve the engorged blood-vessels, to reduce the hyperemia, to lessen the mechanical pressure of the upper lid on the cornea, and to prepare the way for subsequent treatment. The scarification should be done under cocaine local anesthesia, a 10 per cent. solution having been brushed over the conjunctiva. The incisions should be through the conjunctiva only. It is not necessary to cut deep, and it is important not to cut through to the tarsus. Numerous incisions should be made over the conjunctiva, and bleeding encouraged by application of hot compresses. The best plan is to scarify a limited area, say one-third, and then apply the hot compresses, and in this way go over the entire sur-

* Read before the Academy of Medicine of Cincinnati, May 2, 1910.

face. The local application gives relief and takes away the sense of weight which is always present.

Mechanical expression of granulation has been in vogue a good many years, and has been so successful in shortening the time of treatment, and has been such a valuable aid to the medicinal treatment that it is likely to hold its popularity. It is founded on rational principles, and those who have adopted it are likely to continue it. The expression of the granulations is accomplished by means of forceps, of which there are several modifications, but they all have the same effect. The first instrument for this purpose was devised by Dr. Prince, of Illinois. Dr. Knapp, of New York, devised the roller forceps. These have been very popular, and have been used by a large number of surgeons. The forceps which I have used most are a modification of those devised by Dr. Prince. They are known commercially as chalazion forceps. Instead of two rings, I have one ring and a disk which fits into the ring. When the instrument is closed the disk pushes the conjunctiva out through the ring, and then when it is drawn forward the nests of granulations are broken up and forced out. The operation of expression can be done on cases which have passed the acute stage. It is very painful, and should be done under anesthesia. The lids are forcibly everted and the fornix exposed, and the operator begins at the inner or outer canthus and squeezes a small area at a time until he has covered the entire surface. Hot cloths are applied to favor bleeding. After the operation, cold applications may be used until the acute pain has passed. It is possible to remove all the granulations at one sitting, but frequently there are returns of a few at intervals. These should be expressed as soon as they develop. I have treated a good many cases by making several expressions, and not trying to accomplish the whole object at one treatment. This is always in adults, and while the pain is severe it does not last long. A 10 per cent. solution of cocaine is used, allowing time for its full effect. In this way one can accomplish excellent results without the use of an anesthetic. Everyone has observed that in cases in this cicatricial stage there will suddenly be a relapse due to the development of nests or islands of granulations in an area which had heretofore appeared quite smooth. The expression of these granulations is readily accomplished. Sometimes when they are hard it is well to scarify the surface first and even to curette it.

The destruction of granulations by the method known as *grattage* or *brossage* is accomplished as follows: The conjunctiva is brushed or rubbed with a stiff tooth-brush which has been dipped in a solution of bichloride 1-500. This method probably never had a very large following, and for very good reasons. One can hardly imagine a plan which would be more thoroughly destructive of the epithelium of the conjunctiva. The excision of the retro-tarsal fold of the conjunctiva has been in vogue for a number of years. In some localities it has met with a cordial endorsement by oculists who have had opportunities to test its virtues. This is particularly the case in Eastern Prussia, where trachoma prevails very extensively. Not only do some operators remove the retro-tarsal fold of the conjunctiva, but Vossius and Kuhnt remove the entire palpebral conjunctiva and the tarsus. Kuhnt devised an operation in which he removed the tarsus alone without the conjunctiva.

These operations have the endorsement of skillful men of large experience. The objection to the removal of the retro-tarsal fold would naturally be that it would cause a shrinking and narrowing of the upper fornix, sufficient to impair the motility of the eye; but this does not seem to be the case in the hands of operators of experience. Dr. H. W. Wooten (*Archiv of Ophthal.*, vol. xxxix, No. 2) says: "The combined excision relieves the patient completely of his disease at one sitting, and renders him practically incapable of reinfection. Pannus is prevented, or if present is materially benefited; ptosis, if it has existed, is immediately and permanently cured, and any tendency to entropion is instantly corrected with the preservation of a normal lid margin. The movements of the lids are perfect, and the excursions of the globe are not restricted in the slightest degree." These are certainly very encouraging words, and if we can eradicate this disease so easily and so quickly by the knife it will be a boon to the sufferers, who by the ordinary method of astringents and caustics can only hope to get relief after months, and sometimes many months, of persistent treatment.

In the operation previously referred to, the conjunctiva is removed from the junction of the palpebral with the bulbar conjunctiva down to within 2.5 m.m. of the free margin of the lid. The tarsus is shelled out and the bulbar conjunctiva is united to the strip of palpebral conjunctiva by stitches. To one who has never seen this operation done it would seem that the traction produced by the stitches would produce an entropion, but this does not follow, according to reports, and the results are more prompt and favorable than by the old classical treatment by astringents.

Canthoplasty is a surgical measure which aids very materially in the treatment of cases where the commissure is shorter than normal. The pressure of the lid on the cornea favors the development of pannus and ulceration of the cornea. In such cases the eversion of the lids is more difficult, and in consequence the local treatment is not so satisfactory or so thorough. The canthoplasty, by enlarging the commissure, relieves the pressure on the cornea and aids the medicinal treatment and lessens the danger of ulceration.

The combined excision of Heisrath and the tarsal excision of Vossius and Kuhnt have accomplished wonderful results in their skillful hands. It may herald a new era in the treatment of trachoma, which will transfer that disease to the realm

of surgery. It is, however, difficult to perform, and it is quite probable that many operators will still continue to resort to surgical methods less radical in character.

(*Continued from page 662.*)

Sullivan; Secretary, Dr. Rupert Welliver; Treasurer, Dr. Rome Webster.

Dr. D. G. Riley and Dr. F. C. Gray sail for a two months' tour in France, England, Scotland and Ireland, and will spend some time at the Victoria Hospital, at Leeds, England, seeing the work of Dr. Moynihan.

The Miami Valley Physicians' Outing Club, composed of the members of Montgomery, Butler, Warren and Green County Medical Societies will hold their annual picnic at the Miami Valley Chautauqua grounds, near Franklin, on Wednesday, July 6, with an all day outing. Papers and after dinner talks will be given by men from Cincinnati and other cities.

A "privileged speeder's" ordinance will be presented before the last meeting of the Dayton, O., council for its third reading and passage, if the plans perfected at the last meeting of the Physicians' Business League are carried out. The physicians have been working for some time on this new measure, which provides for special privileges in driving cars within the city limits.

Cincinnati Items.

Work on the new Good Samaritan Hospital is rapidly progressing.

Dr. D. F. Kindel will return this week from a prolonged vacation spent in the East.

"Phenomenal" Kraus has folded his tent like the Arabs and gone to Mexico City. Woe unto the Mexicans!

Dr. Harry Thomas, of 3425 Craig Avenue, a former assistant health officer, died June 21, of phthisis pulmonalis. He was formerly located at 1718 Freeman Avenue.

The Cincinnati Obstetrical Society met June 23 at the home of Dr. J. C. Cadwallader. The paper of the evening was "The Development of the Sex Organs," by Dr. Henry L. Woodward.

Dr. C. A. Schaeffer, of Hamilton, former police surgeon of that city and a graduate of the Medical College of Ohio, has relinquished the practice of medicine and gone to Citronville, Ala. He has purchased a peach orchard.

The vacation bee is buzzing and humming at a terrific rate among the local profession. Non-resistance would seem the ideal method of stopping it. Take a week or two for communion with the streams and fields and forests.

Dr. J. K. Scudder, editor of the *Eclectic Medical Journal*, with Mrs. Scudder, will, after the close of the National Eclectic Medical Association meeting go to the White Mountains, Montreal, Ottawa, and through the Rideau lake region for a three weeks' recreation.

The Society for the Prevention of Cruelty to Animals should make an effort to stop the torturing of chickens and other fowls by commission houses. Famished and squeezed into small coops by the dozens, the animals are mute testimony of man's cruelty and indifference.

Drs. Lloyd, Scudder, Strouse, Church, Felter, Watkins, Russell, of Cincinnati, and Dr. J. A. Munk and niece, of Los Angeles, and Dr. A. F. Stephens, of St. Louis, leave Sunday night to attend the annual meeting of the National Eclectic Medical Association, at Boston, June 28 to July 1.

Milk stations will be opened at the following places: Union Bethel, 501 E. Third Street; Cincinnati Polyclinic, 920 Race Street; United Jewish Charities, 731 W. Sixth Street; University Settlement, 224 W. Liberty Street; Seton Hospital, 618 W. Sixth Street; St. Paul's Catholic Church, Spring and Twelfth Streets.

In an address, June 21, before the Twentieth Century Club by Dr. A. O. Zwick, he very properly emphasized what most speakers seem to forget in discussing the cause of tuberculosis—imperfect economic conditions. Everywhere physicians treat the effect, being indifferent to the cause, which continues to produce new cases with a rapidity which ought to impel everyone to seek the cause. Medical men and women ought to be more conversant with political and social economy. They would then justify their title of "doctor."

Historic old Pulte, once probably the leading homeopathic medical college in the country, is to be amalgamated with the Cleveland Homeopathic College and Hospital. The attendance has been small. It must be admitted that the college has not had the facilities for modern clinical instruction which are required these days, although an able corps of teachers made the didactic part very valuable. The officers of the faculty are: Dr. Charles E. Walton, Dean; Dr. S. R. Geiser, Registrar; Dr. H. H. Wiggers, Treasurer; Dr. Lincoln Phillips, Secretary, and Dr. J. R. McCleary, Recording Secretary.

Marriages.—Dr. Lester W. Stacey and Miss Luella Gebhart, both of Norwood, were married June 16. Dr. William H. Peters, an interne the past year at the Christ Hospital, was married June 18 to Miss Ida M. Spence, of Walnut Hills. Damon Crist, an undergraduate at the Eclectic Medical College, was married last Saturday to Miss Mary E. Keller, of Madisonville. On June 28, Dr. Robert D. Maddox, of the faculty of the University of Cincinnati Medical Department, will be married to Miss Helen Blair, of Walnut Hills. It is to be hoped a few more bachelor doctors will follow the good example.

The following advertisement appeared in the Cincinnati dailies the past week. It is about as brazen a piece of quackery as one will meet in this day and generation. The principal ingredient of "Nature's Creation" (save the mark!) has been shown by the *Journal American Medical Association* to be potassium iodide. That it is not only useless, but positively dangerous in phthisis pulmonalis any intelligent layman should know. Its "dispenser," one Geo. W. Campbell, ought to be driven from town with a coat of tar and feathers. "I will pay one hundred dollars to any person who will produce in court absolute proof that any financially responsible doctor or layman in Cincinnati is using his influence against the use of 'Nature's Creation,' by saying that it is dangerous and that it does not cure tuberculosis."

St. Francis Hospital Report.

The twenty-first annual report of St. Francis Hospital has been issued. This charitable institution is justifying its existence more and more with each succeeding year. The total number of patients under treatment during 1909 was 1,052. Of these there were discharged during the year 575; claimed by death, 148; remaining, 329. There were 607 male patients, 445 female. In reference to the nationality of patients those from this country, of course, preponderated, there being 631. Germany contributed 268, Ireland 97, Hungary 11, England and Canada 8 each, Italy aand Switzerland 7 each, with one or two representatives from nearly every country on the globe.

In the surgical report one notices the large number of cases of carcinoma in the institution, a separate ward having been constructed for their reception. Tuberculosis was much in evidence, a total of 208 being reported. Of these tubercular patients 78 were improved, 95 unchanged, 66 died. The institution is really not fitted for the treatment of tuberculosis in spite of which the percentage of recoveries and the increased comfort which phthisical cases receive compared to what is their portion in the tenement districts is gratifying.

The eye, ear, nose and throat department, also the dental, have interesting reports.

The large stable, which was partially destroyed some months ago, is being rebuilt. Other improvements are constantly being made in the hospital proper.

The institution exemplifies a beautiful charity.

From clipping returns received at the headquarters of the National Association for the Study and Prevention of Tuberculosis, it is estimated that fully 20,000 newspapers, magazines, religious and technical journals gave publicity to the first national tuberculosis Sunday, April 24.

The union printers is the only labor organization maintaining a tuberculosis sanitarium.

Surgery.

W. D. HAINES, M.D.

Dilatation of the Stomach.

The clinical features of dilatation of the stomach were first described by Brinton in 1859; fourteen years later Hilton Fagge published his comprehensive essay upon this subject. It was not until quite recently, however, that the great importance and fatal tendency of this complication in the post-operative history of gall-bladder and pus cases was recognized by the surgeon.

Some observers, Robinson, Kundrant, Albrecht and others, regard the condition as one induced by mechanical pressure of the root of the mesentery and superior mesenteric artery upon the third portion of the duodenum. Again explanation has been sought in the influence of hyperacidity, the absorption of toxins and excessive stomach secretions following anesthesia upon the nerve trunks or centers, resulting in paresis of the musculature and pyloro-spasm.

The presence of bile in the vomitus renders the theory of spasm of the pylorus untenable and speaks in favor of the explanation offered by Conner (*Journal A. M. A.*, March, 1907), who collected eighteen cases dead of this complication in which post-mortem examinations showed mesenteric ilius. Conner says the intestines enter the pelvis in consequence of the dorsal decubitus, a relaxed abdominal wall and the comparatively empty condition of the gut; he further states that duodenal constriction is favored by a long mesentery.

Much valuable experimental research work has been done to determine the cause of acute dilatation of the stomach in the hope that some rational surgical procedure may be devised which will prove effective in combatting the death-dealing tendency of this complication.

Kemp (*American Journal of Surgery*, November 1908) reviews the literature and presents the report of a number of interesting animal experiments, which he made in conjunction with Dr. Satterthwaite and Mr. Hoyt at the Columbia University. The following classification is given:

"1. Acute dilatation of the stomach alone.

"2. Acute dilatation of the stomach, which supervenes upon an existing chronic dilatation (the latter due to stenosis of the pylorus).

"3. Acute dilatation of the stomach and duodenum; the most fatal type.

"4. Acute dilatation of the stomach and intestines; a mixed type (tympanites).

"This last classification—acute gastro-intestinal dilatation—should justly be included, as the conditions very frequently co-exist. It has been my own experience to see the physician consider the tympanites as confined to the intestine alone, and to treat it without results.

"This mixed type is frequently present in the acute infectious diseases, such as typhoid fever and pneumonia. For example, *in the acute distension of typhoid* with active hemorrhage, lavage may prove of service in relieving the distension.

"If you will follow up the fatal cases into the post-mortem room, you will be quite surprised to frequently find a great distension of the stomach and intestines; though the same was in no way considered 'intra-vitam' to be significant, or to have any bearing on the fatal issue. Campbell Thomson remarks most significantly:

" 'In autopsies on such cases (fatal pneumonias), both intestines and stomach may sometimes be seen to be greatly distended; the appearance of the stomach in many cases leading one to suppose that it must be a very short step between that condition and the more serious one described, and there is but little doubt that one is simply a less severe form of the other.' "

"It is evident, therefore, that in these mixed cases, the gastric dilatation is an important factor and that the association of the stomach in the general acute distension has generally been overlooked or disregarded.

"There are undoubtedly various factors which have a bearing upon the production of acute dilatation of the stomach; and for a complete understanding of the subject, it would seem necessary to refer briefly to certain anatomical features existing in the stomach and duodenum. You are all familiar with the fact that during the process of digestion the pylorus opens and closes intermittently, while under normal conditions the cardiac orifice remains closed.

"Most significant are the experiments of Kelling and Braun on dogs. After gastrostomy, when the animals had recovered from the anesthetic, it was impossible to produce acute dilatation of the stomach by inflation, since, when a certain degree of this was reached, vomiting was excited and the stomach was emptied.

"During narcosis, the stomach could be distended *to nearly the bursting point* without the escape of air from the esophagus. This was found in all cases; but only relatively so in my own experiments.

"After *complete paralysis of the stomach*, the escape of air *was prevented*, evidently by some valvular action of the cardia."

The motor impulse of the stomach is supplied through the vagus, and its inhibition is derived from the dorsal cord through the solar plexus.

Carion and Hallion produced great dilatation in the stomach and lower end of the esophagus by resecting the vagus above the diaphragm. Kemp offers this as a possible explanation for the enormous dilatation of the stomach following head injuries exhibiting motor paralysis.

The following are a few of the clinical types of acute dilatation of the stomach presented by Kemp, whose comments upon the cases presented are singularly interesting: Convulsions (infants) epilepsy, migraine, tetany, chorea, and cases presenting cardiac symptoms, tachycardia, pseudo angina pectoris.

Increase in pulse rate and respiration, with co-

incident fall in blood pressure, followed gastric (human) dilatation by CO_2.

The subject, a physician, complained of substernal pain which radiated over the entire abdomen as the shygmomanometric tracing increased and a sensation of suffocation, accompanied by flushing of the face, nausea and general discomfort ensued. The symptoms all disappeared on aspiration of the stomach.

The deductions to be drawn from experimental dilatation of the stomach by the use of CO_2 may be formulated thus: The method is not devoid of danger; the risk is too great in the aged or in patients suffering of pulmonary or heart disease to warrant the use of CO_2 as a diagnostic measure, and last the data thus obtained are not reliable.

Regardless of the theories of its production or the frequency with which acute dilatation of the stomach presents in the course of typhoid, pneumonia and other diseases, we recognize in the post-operative variety of this condition an exceedingly grave complication which is attended by a high mortality rate in the absence of early recognition and efficient, persistent treatment. Conner's statistics, compiled three years since, gives the death rate as 75.5 per cent. Many operative procedures have been instituted for the relief of acute dilatation of the stomach following operation. Their success has not warranted a continuance, and this because of our failure to fully comprehend the cause or causes operative in the production of the complication.

We have but two measures—*lavage, decubitus*—worthy of confidence in the treatment of acute post-operative dilatation, and if these are employed early and persistently will save a large percentage of the cases.

The Therapeutic Possibilities of Direct Blood Transfusion.

John A. Hartwell, of New York, states that up to the present time no great benefit has been obtained in direct transfusion except in cases of hemorrhage. It holds out a promise of benefit in septic conditions and malignant growths that has not yet been realized. In anemias the destructive agent acting on the blood cells is not removed and only temporary benefit results from transfusion. When we have secondary anemia due to hemorrhage or disturbance of the internal circulatory mechanism transfusion is of value. In tuberculosis it has so far proved of little value. It is somewhat difficult to obtain a donor.—*Medical Record,* June 11, 1910.

Schools—Good, Bad and Indifferent.

The country is supporting three or four times as many doctors as it requires, mostly trained in inferior schools. There are 155 medical schools, while one-fifth the number would suffice. Because of the diploma mills the profession is hopelessly overcrowded. The men of genuine ability and thorough education, who love their work for the work's sake, have to compete, until their merit shall have been recognized, with the ignorance turned out by the inferior schools. If they could be closed there would not be so many men starving as doctors who ought to have been farmers, clerks or mechanics.—*Carnegie Foundation Report,* 1910.

Miscellany.

American Hospital Association Meeting.

The preliminary program of the Twelfth Annual Conference of the American Hospital Association, to be held at St. Louis, September 21, 22, 23, 1910, will discuss many moot questions on hospital affairs. The following will give an idea of the work mapped out:

President's Address.

Relationship of Trustees to Superintendent. Dr. Henry M. Hurd, Johns Hopkins Hospital, Baltimore.

Private Rooms in General Hospitals. C. Irving Fisher, Presbyterian Hospital, New York City.

The Training of Hospital Superintendents and Heads of Departments. Dr. F. A. Washburn, Superintendent Massachusetts General Hospital, Boston.

Co-operation vs. Individualism in the Care of the Sick. Mr. Bailey B. Burritt, Secretary State Charities Aid Association, New York City.

Preparation and Use of Detailed Reports for Smaller Hospitals. Mr. Walter Mucklow, Director, St. Luke's Hospital, Jacksonville, Fla.

The Education of the Nurse in America. Dr. Richard O. Beard, Secretary, University of Minneapolis Hospital, Minneapolis.

The Hospital as a Commercial Factor. Mr. Del T. Sutton, Editor *International Hospital Record,* Detroit.

Methods of Raising Funds for a General Hospital. Miss Lucia L. Jaquith, Superintendent Memorial Hospital, Worcester, Mass.

Hospital Construction in St. Louis. Dr. Wayne Smith, Superintendent University Hospital, St. Louis.

Report of Special Committee on Education and Training of Nurse Assistants for the Care of People of Limited Means in their Homes and the Nursing of Patients Suffering from Chronic Diseases. Committee: F. A. Washburn, M.D., Miss Mary Riddle, Chas. H. Young, M.D.

Report of Special Committee on Bureau of Hospital Information and Permanent Secretaryship. Committee: Dr. S. S. Goldwater, Mt. Sinai Hospital, New York City; Dr. Henry M. Hurd, Johns Hopkins Hospital, Baltimore; Dr. P. E. Truesdale, Truesdale Hospital, Fall River, Mass.

Report of Committee on Hospital Efficiency, Hospital Finances and Economics of Administration. Winford H. Smith, M.D., Bellevue and Allied Hospitals, New York City.

Report of Committee on Hospital Construction. H. E. Webster, Royal Victoria Hospital, Montreal, Quebec.

Report of Committee on Uniform Accounting. C. Irving Fisher, Presbyterian Hospital, New York City.

Question Box. Chairman: Dr. R. W. Bruce Smith, Parliament Bldg., Toronto, Ont.

The Committee of One Hundred of the American Association for the Advancement of Science has issued an attractive little leaflet on "Why the People of the United States Should Have a Department of Health." Physicians should have succinct reasons to present to people, and they are herewith given:

1. To stop the spread of typhoid fever through drinking sewage-polluted water of interstate streams.
2. To enforce adequate quarantine regulations, so as to keep out of the country plague and other similar pestilences.
3. To supervise interstate common carriers, in so far as without such supervision they prove a menace to the health of the traveling public.
4. To have a central organization of such dignity and importance, that departments of health of States and cities will seek its co-operation and will pay heed to its advice.
5. To influence health authorities, State and municipal, to enact uniform legislation in relation to health matters.
6. To act as a clearing-house of State and local health regulations and to codify such regulations.
7. To draw up a model scheme of sanitary legislation for the assistance of State and municipal health officers.
8. To gather accurate data on all questions of sanitation throughout the United States.
9. To establish the chief causes of preventable disease and unnecessary ill-health.

10. To study conditions and causes of diseases recurring in different parts of the United States.
11. To correlate and assist investigations carried on in many separate and unrelated biological and pathological federal, State and private laboratories.
12. To consolidate and co-ordinate the many separate government bureaus now engaged in independent health work.
13. To effect economies in the administration of these bureaus.
14. To publish and distribute throughout the country bulletins in relation to human health.
15. To apply our *existing* knowledge of hygiene to our living conditions.
16. To cut in two the present death-rate in the United States, as the authorities are agreed might be done.

Stammering.

The fact that the stammerer is usually the object of amusement and much teasing by his companions at school, thereby increasing the youth's embarrassment and thereby his defect of speech should lead the profession to instruct educators along the line of cure or prevention. Kenyon, in the *Journal A. M. A.*, June 4, thinks that stammering can be corrected to a large extent in the public schools, though he admits some dubiousness of the problem. Much will have to be learned by experience. A great advantage would be derived from the fact that the disease could be taken in its beginnings, and even in its earliest beginnings, with proper enlightenment of parents. It would also be a more universal treatment than any other when fully carried out. He thinks the wisest plan, however, would be to concentrate the efforts in the beginning to a relatively small number of cases and advance the work only in the light of painstaking trial and experience. The long-continued training would also be of great advantage. Segregation of the individuals would be advisable into classes composed wholly of stammerers. He suggests that the plan of treating stammerers by the schools be put forward first, not as a universal proposal, but as a special opportunity to be taken advantage of by parents if they wish. Then let centralized schools be chosen for carrying on the work in the best and most economical way, looking forward to a time when with proved success all stammerers could be provided for.

That Political Bugbear, the A. M. A.

Some amusing statements are found in the newspapers sometimes. The Cincinnati *Enquirer*, in its issue of June 10, printed the following dispatch, which is excruciatingly funny, although it was printed in all seriousness:

Pittsburg, Pa., June 9.—It is announced to-night that Dr. R. J. Black, opponent of Congressman John Dalzell, who claims the latter's nomination was secured by fraud, will run as an independent candidate in case the contest proceedings do not reverse the result. *It is stated authoritatively in that case Dr. Black's campaign will be financed by the American Medical Association, of which he is a member,* and that he will also receive support from Western insurgent Congressmen. [Italics ours.—Ed. Lancet-Clinic.]

Worse and Worse!

John J. Sheridan, of Chicago, counsel for the Illinois Voters' and Taxpayers' Association, testifying in opposition to the proposed federal department of health, told the House committee on interstate commerce that he opposed the proposed department on the ground of enormous expense, interference with State rights and too great concentration of federal power.

The proposition presented at the last meeting of the A. M. A., urging the abolishment of the office of coroner, is quoted and discussed at length in nearly every lay paper in the land. Each usually quotes in approbation of the resolution offered to favor the passage of State laws giving the medical functions of the coroner's offices into the hands of a medical examiner, and the judicial functions into the hands of a prosecuting attorney.

Book Reviews.

DISEASES OF THE STOMACH AND INTESTINES. By Robert Coleman Kemp, M.D., Professor of Gastro-intestinal Diseases, New York School of Clinical Medicine. Octavo of 766 pages, with 279 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $6.00 net; half morocco, $7.50 net.

This is an excellent work upon non-surgical diseases of the stomach and intestines. It is written particularly with the needs of the general practitioner in mind, and, while no surgical procedures are discussed, the author is careful not to neglect to point out all conditions possessing surgical indications. After a discussion of the anatomy and physiology of the stomach and intestines, the different methods of physical examination are reviewed. Here, along with the technique of the examination of the stomach contents, the possibilities of the X-rays are entertainingly discussed. No practical diagnostic procedure is neglected, and some that are not so practical are given due credit and mention.

The physio-therapy (a form of therapy that is rapidly occupying a more and more important place in the physician's armamentarium) of gastro-intestinal disorders is reviewed, along with orthopedic methods, and these useful procedures are well and graphically illustrated by means of photographs and drawings. We note with gratification indications that the author of this work has joined others in the present day reaction against the one time indiscriminate and overuse of gastric lavage. He gives, however, careful attention to the technique of lavage; and since it is frequently very necessary every practitioner should be expert in its administration. Unfortunately, as a matter of fact, only a few are, hence for many this chapter should repay a careful reading.

A description of the methods of examination of the feces is interesting, and covers an important and much neglected field.

Gastro-intestinal neuroses occupy a large place in the index and a small place in the body of the work. The reviewer feels that this field has been neglected.

In his chapter on the treatment of typhoid the author occupies a conservative position. While he is not opposed to the Brand method, he rarely uses it, and at times even prefers the warm bath. This is, in the reviewer's opinion, another gratifying reaction in therapeutic method.

Surprising as it may seem the author believes in the medical treatment of many cases of appendicitis. In mild cases operation may be deferred to the interval between the attacks. Between the attacks, however, it is the reviewer's experience to observe that the patient's enthusiasm for operative procedure rapidly sinks to the vanishing point.

The work is altogether an excellent one, covering in a careful, scientific and conservative way this extensive field of gastro-intestinal disease. We feel that few physicians' libraries are so complete that their value would not be increased by its finding a place on their shelves.

MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers DaCosta, M.D. Sixth edition, thoroughly revised and enlarged, with 966 illustrations, some of them in colors. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $5.50 net; half morocco, $7

Let him who questions the part played by Americans in the advancement of the science and art of surgery read "An Appreciation," published in the last issue of the *Journal A. M. A.* Coming as it does from the pen of one of the foremost surgeons of Europe, it will carry a rude shock to the American *student* who immediately after graduating rushes to some foreign clinic, intent on spending a few months with a view to "fitting up" to do surgery.

The book before us is a faithful portrayal of the recent advances in surgery. The sixth edition of this valuable work is of necessity more voluminous than any of its predecessors, the fifth appearing less than three years ago, but, as in the other editions, the author has made an honest effort to separate the wheat from the chaff and to present the practical rather than the theoretical. The author's style is terse commensurate with completeness, and his comments on the opinions and methods of other surgeons are tolerant and illuminating. While the author has tried to distinguish between the constellations of profundity and the stars made by ducks' feet in the soft mud, still an occasional anatomical bull has crept into the text, as witness the description of the operation for ligation of innominate artery, wherein low division of the sternohyoid and sternothyroid muscles is commended. Experience in goiter and other neck operations necessitating free exposure of the deeper planes of the neck, has abundantly demonstrated that low division of these muscles destroys their innervation and ends in paralysis. As good an exposure of the region under consideration may be had by dividing the sternohyoid and sternothyroid high, junction of upper with middle third, with the additional advantage of restoration of function after suturing the divided ends of these muscles.

A distinguishing and most valuable feature of this book comprises a short description of the anatomy of the field of operation, illustrated by homely, accurate drawings, annoting the usual position and relations of the structures to be encountered, together with the proper incision for free exposure, and other important data. The wisdom of this feature of the book may be questioned from the viewpoint of book-making, in that it greatly increases the size of the volume, but when one contemplates the great advantage to be derived from a clear understanding of the anatomical structures which presents to view in the course of any operation, he readily sees the advantages of this plan.

The recent advances in cardio-vascular surgery, including the work of Matas, Crile, Carrel and others; Horsley's operation for chronic spinal meningitis; Murphy's treatment of peritonitis; Cushing's decompression operation; Bier's intravenous local anesthesia; cystoscopy and ureteral catheterization, and Wright's views on inflammation, are some of the distinctive features of this work.

The book is one of the best of the one-volume works on surgery, and well merits the high place it occupies in surgical literature. The illustrations are good, and assist one materially in comprehending the text. W. D. H.

Feeding of Infants in Diarrhoea

MELLIN'S FOOD
2 level tablespoonfuls
WATER
8 fluidounces

Analysis of above mixture:

Fat	trace
Proteids (cereal)	.56
Carbohydrates (no starch)	4.33
Salts	.23
Water	94.88
	100.00

Calories per fluidounce=6.2

To be given cold or very warm, (never lukewarm) in small amounts, frequently repeated, for a day or more, or until stools lessen in number and improve in character.

Then milk may be added in small quantities until full diet is reached.

We cannot emphasize too strongly the benefit of such a diet in all forms of Summer diarrhoea.

Additional formulas may be found in our book, "Formulas for Infant Feeding," which will be sent free upon request.

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